GOALKEEPER NUTRITION GUIDE

Ages 8–19 · Texas Youth Soccer

EDITOR NOTE: *This is the corrected 2026 imperial edition. All macronutrient targets are expressed in grams per pound of body weight (g/lb). Fluid targets use fluid ounces (fl oz). Temperatures use Fahrenheit (°F). Heights use feet and inches. The original '5-5-3-2' portion-count method has been replaced with an evidence-based g/lb framework (AND / ISSN, 2024). See the Errata Summary for a full change log.*

WHY NUTRITION MATTERS FOR GOALKEEPERS

A goalkeeper's role demands explosive power, sharp reaction time, sustained concentration, and fast recovery. What you eat directly influences training quality, recovery speed, and match-day performance at every age from 8 to 19. This guide gives coaches, parents, and athletes a practical, evidence-based framework — all in familiar pounds, ounces, and Fahrenheit.

Core Principles

Principle	What It Means	Why It Matters
Fuel First	Prioritise whole food over supplements	Whole foods supply vitamins, fibre, and phytonutrients that pills cannot replicate
Body-Weight Dosing	All targets in grams per pound of body weight (g/lb)	Removes guesswork; multiply by your weight in pounds to get your daily gram target
Train-Load Matching	Adjust carbs to match session intensity	Prevents under-fuelling on heavy days and unnecessary surplus on rest days
Hydration Always	14–20 fl oz 2 hrs before; 5–8 fl oz every 15–20 min during	Even 2% dehydration impairs reaction time and decision-making
Recovery Window	Carb + protein snack within 30–45 min of session end	Replenishes glycogen and starts muscle repair when uptake is highest

What's Inside This Guide

Pg	Section
1	Introduction and Core Principles
2	Macronutrient Framework — g/lb Targets, Calorie Table, and Worked Examples
3	Practical Meal Plans, Hydration, and Micronutrient Guidance
4	Supplement Safety, BMR Calculator, and Formula Quick Reference

Who This Guide Is For

- **Youth goalkeepers (ages 8–19)** — recreational, club, or academy soccer in Texas
- **Parents and guardians** who prepare meals and want to understand fuelling principles
- **Coaches** who advise athletes on daily habits and pre/post-session nutrition

Disclaimer: This guide is for general educational purposes only. Athletes with medical conditions, food allergies, or eating concerns should consult a registered dietitian (RD) or sports dietitian (CSSD). Nothing here constitutes individualised medical or dietary advice.

MACRONUTRIENT FRAMEWORK — g/lb BODY-WEIGHT SYSTEM

HOW TO USE THIS PAGE: *All targets are in grams per pound (g/lb) of body weight. Multiply the g/lb figure by your weight in pounds to get your daily gram goal. Example: 2.7 g/lb carbs × 143 lb = 386 g of carbs on a moderate training day.*

1. Carbohydrates — The Primary Fuel

Carb targets scale with training load — more on hard days, fewer at rest — so athletes fuel optimally without unnecessary surplus.

Training Load	Description	Daily Target (g/lb)	110 lb athlete	143 lb athlete	176 lb athlete
Very Light / Rest	No training; normal school activity	1.4–2.3 g/lb	154–253 g	200–329 g	246–405 g
Light	Technical drills, under 60 min	2.3–2.7 g/lb	253–297 g	329–386 g	405–475 g
Moderate	Standard session, 60–90 min	2.7–3.2 g/lb	297–352 g	386–458 g	475–563 g
High	Double sessions or 90+ min intense	3.2–4.5 g/lb	352–495 g	458–644 g	563–792 g
Match Day (24 hr)	Competition day with full warm-up	3.6–5.5 g/lb	396–605 g	515–787 g	634–968 g

Best sources: oats, rice, pasta, bread, potatoes, fruit. Limit high-sugar items to the 30-min post-session recovery window.

2. Protein — Building and Repairing Muscle

Spread protein across 3–4 meals rather than concentrating it in one sitting. Youth athletes need protein for normal growth as well as muscle repair.

Athlete Profile	Daily Target (g/lb)	110 lb	143 lb	176 lb	Best Sources
Ages 8–12 (lighter training load)	0.55–0.64 g/lb	61–70 g	79–92 g	97–113 g	Eggs, milk, yogurt, chicken, beans
Ages 13–16 (pubescent, moderate load)	0.64–0.77 g/lb	70–85 g	92–110 g	113–136 g	Above + Greek yogurt, tuna, turkey
Ages 17–19 (near-adult, high load)	0.73–0.91 g/lb	80–100 g	104–130 g	128–160 g	Above + lean beef, cottage cheese, tofu
Injury / Rehabilitation	0.82–0.91 g/lb	90–100 g	117–130 g	144–160 g	Consistent spread across all meals

3. Dietary Fats — Hormones, Brain, and Joint Health

Do not restrict fats in youth athletes — essential for hormone production, brain function, and development.

Category	Daily Target (g/lb)	110 lb	143 lb	176 lb	Best Sources
Total dietary fat	0.36–0.55 g/lb	40–61 g	52–79 g	63–97 g	Nuts, seeds, avocado, olive oil, oily fish
Saturated fat	< 10% of total kcal	—	—	—	Limit processed meats, fried snacks, butter
Omega-3 (EPA/DHA)	≥ 250–500 mg/day	—	—	—	Salmon, sardines, walnuts, flaxseed

Daily Calorie Summary — Worked Examples

Formula: Daily grams = (g/lb target) × body weight in pounds | Calories from carbs/protein = g × 4 | Calories from fat = g × 9

Body Weight	Carbs (moderate, 2.7 g/lb)	Protein (0.73 g/lb)	Fat (0.45 g/lb)	Est. Daily Calories
110 lb	297 g / 1,188 kcal	80 g / 320 kcal	50 g / 450 kcal	~1,958 kcal
143 lb	386 g / 1,544 kcal	104 g / 416 kcal	64 g / 576 kcal	~2,536 kcal
176 lb	475 g / 1,900 kcal	128 g / 512 kcal	79 g / 711 kcal	~3,123 kcal

** Estimated total = carb kcal + protein kcal + fat kcal. Add 200–400 kcal buffer for growing athletes. Carbs shown for a moderate training day — adjust per training-load table above.*

PRACTICAL MEAL PLANS, HYDRATION AND MICRONUTRIENTS

Nutrient Timing Around Training

Timing Window	What to Eat	Practical Examples
3–4 hrs before	High-carb, moderate protein, low fat/fibre	Rice + grilled chicken + veg; pasta + turkey
1–2 hrs before	Moderate carb, light protein, low fat	Banana + peanut butter; toast + egg
30–60 min before	Easy-digest carb only if needed	Sports drink, banana, pretzels
During (over 60 min)	1–2 oz carbs per 15 min; 17–25 fl oz/hr fluid	Sports drink, orange slices, energy chews
Within 30–45 min after	Carb + protein, 3:1 or 4:1 ratio	Chocolate milk, yogurt + granola, rice cake + turkey
Evening recovery meal	Balanced: carb + protein + vegetables	Salmon + baked potato + broccoli

Sample Daily Meal Plans by Body Weight

*Plans below target a **moderate training day** (2.7 g/lb carbs, 0.73 g/lb protein). Adjust portions up or down per the training-load table on Page 2. Protein portions shown in ounces (oz); fluids in fluid ounces (fl oz).*

Meal	110 lb (~1,958 kcal)	143 lb (~2,536 kcal)	176 lb (~3,123 kcal)
Breakfast	2 eggs, 2 sl toast, banana, 8 fl oz milk	3 eggs, 3 sl toast, 1 cup oats, banana	4 eggs, 3 sl toast, 1½ cup oats, 2 bananas
Mid-Morning	5 oz Greek yogurt + apple	7 oz Greek yogurt + apple + granola	1 cup Greek yogurt + apple + granola + nuts
Lunch	4 oz chicken + 1 cup rice + salad	5½ oz chicken + 1½ cup rice + roll	7 oz chicken + 2 cups rice + 2 rolls
Pre-Training	Banana + rice cake	2 bananas + 2 rice cakes	2 bananas + 3 rice cakes + peanut butter
Post-Training	8 fl oz choc milk + fruit	16 fl oz choc milk + banana	16 fl oz choc milk + 2 bananas + 5 oz yogurt
Dinner	5 oz salmon + baked potato + broccoli	7 oz salmon + large baked potato + veg	9 oz salmon + 2 baked potatoes + veg + bread
Evening Snack	3½ oz cottage cheese + berries	5 oz cottage cheese + berries	7 oz cottage cheese + berries + seeds

Hydration Protocol

Phase	Fluid Amount	Notes
On waking	14–17 fl oz water	Rehydrate overnight losses before breakfast
2 hrs before training/match	14–20 fl oz	Arrive at session well-hydrated
During training/match	5–8 fl oz / 15–20 min	Add electrolytes if session exceeds 60 min
After training	1.0–1.5× sweat loss	Aim for pale yellow urine within 4 hrs
Hot TX conditions (above 90°F)	+20–30% above standard	Sodium drinks if session exceeds 90 min

Key Micronutrients for Youth Goalkeepers

Nutrient	Role	Food Sources	Watch For
Iron	Oxygen transport; energy	Red meat, lentils, spinach, fortified cereals	Girls post-puberty at higher deficiency risk
Calcium	Bone strength; muscle contraction	Dairy, fortified plant milk, leafy greens, sardines	3 dairy servings or equivalent daily
Vitamin D	Calcium absorption; immunity	Sunlight, fatty fish, fortified milk/OJ	Test levels if indoor training or low sun exposure
Iron + Vit C	Enhances plant iron absorption 2–3×	Pair beans/spinach with bell pepper or citrus	Easy habit; big impact for plant-based eaters
Magnesium	Muscle function; sleep quality		

SUPPLEMENTS, BMR CALCULATOR AND FORMULA QUICK REFERENCE

Supplement Safety — Critical Guidance for Youth Athletes

SAFETY CORRECTION (Original p. 4): *The original guide contained no supplement safety language. Policy for ALL supplements, ages 8–19: (1) Written parental/guardian consent required for all under-18 athletes. (2) Physician or sports dietitian approval before starting any supplement. (3) Third-party certified only — NSF Certified for Sport®, Informed Sport®, or USP seals. (4) Food first — supplements are for documented deficiencies or verified performance needs only.*

Supplement	Evidence	Age Guidance	Recommended Approach
Protein Powder	Strong	All ages if food protein is inadequate	Whey or plant-based; max 20–25 g per serving; food preferred
Creatine	Strong (adults)	Ages 8–15: NOT recommended. Ages 16–19: physician consult first	5 g/day maintenance; avoid loading in youth; 3rd-party certified
Caffeine	Moderate–Strong	Ages 8–12: avoid entirely. Ages 13–15: under 0.45 mg/lb. Ages 16–19: max 1.4 mg/lb	Trial in training ONLY — never match-day debut. Morning use preferred.
Electrolytes	Strong (>60 min)	All ages appropriate	17–25 fl oz/hr; sodium 460–690 mg/L; no energy drinks
Iron (supplement)	Strong if deficient	Only if blood test confirms deficiency	Physician-prescribed dose; monitor blood levels every 3 months
Vitamin D	Moderate–Strong	All ages if deficient	1,000–2,000 IU/day; test levels first; 3rd-party certified
Multivitamin	Low–Moderate	All ages as safety net	Standard youth or adult formula; no mega-dose products

Step-by-Step Calorie Needs Calculator (Mifflin-St Jeor — Imperial)

Step 1 — BMR (calories at complete rest). Weight in pounds (lb), height in inches (in):

	BMR Formula (Imperial)	Worked Example — 143 lb, 5'5" (65 in), 15-yr-old
Males	BMR = (4.536 × lb) + (15.875 × in) − (5 × age) + 5	(4.536×143)+(15.875×65)−(5×15)+5 = 649+1,032−75+5 = 1,611 kcal
Females	BMR = (4.536 × lb) + (15.875 × in) − (5 × age) − 161	(4.536×143)+(15.875×65)−(5×15)−161 = 649+1,032−75−161 = 1,445 kcal

Step 2 — Multiply BMR by Activity Factor to get TDEE (Total Daily Energy Expenditure):

Activity Level	Factor	Example — Male, BMR = 1,611 kcal
Rest / very light	× 1.20	1,611 × 1.20 = 1,933 kcal
Light training 1–3 days/wk	× 1.375	1,611 × 1.375 = 2,215 kcal
Moderate training 3–5 days/wk	× 1.55	1,611 × 1.55 = 2,497 kcal
Hard training 6–7 days/wk	× 1.725	1,611 × 1.725 = 2,779 kcal
Double sessions / tournaments	× 1.90	1,611 × 1.90 = 3,061 kcal

Step 3 — Cross-check: carb kcal + protein kcal + fat kcal should be within 5–10% of your TDEE. If they differ by more than 10%, adjust carb portions first. *CORRECTION: The original guide showed BMR only — producing targets 25–45% too low for active athletes. Always use TDEE (Step 2), not bare BMR.*

Formula Quick Reference

Calculation	Formula	Example
Daily carb grams	g/lb target × weight in lb	2.7 × 143 lb = 386 g
Daily protein grams	g/lb target × weight in lb	0.73 × 143 lb = 104 g
Daily fat grams	g/lb target × weight in lb	0.45 × 143 lb = 64 g
Carbs/protein → kcal	grams × 4	386 g × 4 = 1,544 kcal
Fat → kcal	grams × 9	64 g × 9 = 576 kcal

Measurement	Equals	Common Use
1 fl oz	~2 tablespoons	Small pour, sauce
8 fl oz	1 cup	Milk, chocolate milk
16 fl oz	1 pint / 2 cups	Large recovery drink
1 oz food	~28 grams	Protein portion size
1 lb food	16 oz / ~454 grams	Bulk cooking reference