



KM TORSO TEAM
Kinematics of Human Motion

Nutrition For Combat Athletes

Summary Guide

WHAT NUTRITION ACTUALLY IS

Nutrition fuels training, recovery, adaptation, and long-term health

Daily practical targets:

- 3–5 meals/day
- Protein in every meal
- Carbs matched to training load
- Hydration: 35–45 ml/kg/day
 - Example: 70 kg athlete → 2.5–3.1 L/day, *before* training losses
- Electrolytes: 1,500–3,000 mg sodium/day, depending on sweat rate

ENERGY AVAILABILITY (EA)

Energy Availability = (Energy intake – Training energy expenditure)

Minimum safe EA:

- ≥ 30 kcal/kg FFM/day
- Optimal for combat athletes: 35–45 kcal/kg FFM/day

Practical adjustments:

- If recovery is poor → add 200–400 kcal/day
- Avoid deficits > 500 kcal/day during heavy training
- Avoid training fasted unless intentionally programmed (rare)

MACRONUTRIENTS EXPLAINED

CARBOHYDRATES (Carbs)

Primary fuel for high-intensity work

Daily intake ranges:

- 3–5 g/kg/day on light days
- 5–7 g/kg/day on moderate days
- 7–10 g/kg/day on heavy or double-session days

Pre-training (1–3 hours before):

Carbs:

- 1–3 g/kg high-GI carbs

Fibre:

- <5 g total fibre
 - Ideal: 1–3 g

Fats:

- <10 g total fat
 - Ideal: 3–7 g

Protein:

- 10–20 g (optional)

Post-training (within 1–2 hours):

Carbs:

- 1–1.2 g/kg high-GI carbs

Fibre:

- <5 g fibre

Fats:

- <10 g fat

Protein:

- 20–30 g

PROTEIN

Supports repair, adaptation, and immune function.

Daily intake:

- 1.6–2.2 g/kg/day

Distribution:

- 20–30 g per meal
- Every 3–4 hours
- 20–40 g post-training
- 20–40 g pre-sleep (casein ideal)

Practical examples:

- 3 eggs = 18–21 g
- 150 g chicken = 30–35 g
- 200 g Greek yogurt = 18–20 g
- 1 scoop whey = 20–25 g

FATS

Essential for hormones, recovery, and long-term health.

Daily intake:

- 0.8–1.2 g/kg/day
- Never drop below 20% of total calories

Per-meal guidance:

- 10–20 g fats per meal on normal days
- <10 g in pre-training meals
- <10 g post-training

Omega-3 target:

- 1–2 g EPA+DHA/day

HYDRATION AND ELECTROLYTES

Daily hydration minimum:

- 35–45 ml/kg/day
 - 70 kg athlete → 2.5–3.1 L/day

During training:

- 400–800 ml/hour
- 300–600 mg sodium/hour
- Add electrolytes if training > 60 minutes

Post-training:

- Replace 150% of fluid lost
 - 1 kg lost = 1.5 L fluid
- Include 500–1,000 mg sodium in recovery drink

Signs of under-hydration:

- Dark urine
- Headache
- Drop in power
- Cramping

WEIGHT MANAGEMENT PRINCIPLES**Safe weekly weight descent:**

- 0.5–1.0% of bodyweight/week
 - 70 kg athlete → 0.35–0.7 kg/week

Daily deficit:

- 300–500 kcal/day
- Maintain protein at 1.8–2.2 g/kg/day
- Keep carbs around training sessions

Fight Week rules:

- Carbs: <50 g/day only if using glycogen depletion
- Sodium: reduce only if intake is normally high
- Fibre: <10 g/day
- Fluids: follow structured plan (not random restriction)
- Fight Week is not fat loss

COMMON NUTRITION MISTAKES

- Chronic under-fuelling
- Low-carb training without purpose
- Excessive fasting
- Cutting weight too early
- Cutting weight too late
- Removing sodium entirely
- Over-reliance on supplements

PRACTICAL GUIDELINES FOR ATHLETES

Daily Structure

- 3–5 meals/day
- Protein: 20–30 g per meal
- Carbs matched to training load
- Hydration: 2.5–3.5 L/day minimum
- Sodium: 1,500–3,000 mg/day

Pre-Training (1–3 hours before)

- 1–3 g/kg carbs
- 10–20 g protein
- <5 g fibre
- <10 g fats
- 400–600 ml fluids

Post-Training (0–2 hours)

- 20–30 g protein
- 1–1.2 g/kg carbs
- <5 g fibre
- <10 g fats
- 500–1,000 mg sodium
- Replace 150% of fluid lost

Recovery Days

- Protein: 1.6–2.0 g/kg/day
- Carbs: 3–5 g/kg/day
- Fats: 1.0–1.2 g/kg/day

Tournament Days

- Small meals every 2–3 hours
- 0.5–1 g/kg carbs per feeding
- 10–20 g protein per feeding
- <5 g fibre
- Sip electrolytes: 300–600 mg sodium/hour

SUPPLEMENTS (EVIDENCE-BASED DOSES)

Creatine Monohydrate

- 3–5 g/day
- No loading required

Caffeine

- 2–6 mg/kg
- 45–60 minutes pre-training

Beta-Alanine

- 3.2–6.4 g/day
- Split into 0.8–1.6 g doses to reduce tingles

Omega-3

- 1–2 g EPA+DHA/day

Vitamin D

- 1,000–2,000 IU/day (unless blood test indicates otherwise)

Avoid:

- Fat burners
- Detox products
- Unregulated stimulants

RED FLAGS AND WHEN TO SEEK SUPPORT

- Persistent fatigue
- Loss of menstrual cycle (>3 months)
- Rapid weight fluctuations
- Disordered eating patterns
- Chronic injuries
- Repeated poor performance

Athletes showing these signs should be referred to a qualified professional