



GOLF NUTRITION GUIDE

ESSENTIAL HANDBOOK FOR GOLFING
ATHLETES



F.T. Health & Nutrition



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GENERAL GUIDELINES

MACRONUTRIENT REQUIREMENTS FOR JUNIOR ATHLETES

PROTEINS	CARBOHYDRATES	FATS
10-30% OF TOTAL ENERGY INTAKE (Choose LEAN Proteins)	45-65% OF TOTAL ENERGY INTAKE (Choose COMPLEX Carbs)	20-35% OF TOTAL ENERGY INTAKE (Choose UNSATURATED Fats)

- ENSURE THE ATHLETES HAVE SUFFICIENT MACRONUTRIENTS & MICRONUTRIENTS IN THEIR DIET BY HAVING A BALANCED DIET
- USE THE RECOMMENDED TABLES/LIST OF FOOD SOURCES TO CHOOSE THE BEST OPTIONS
- ENSURE YOU UNDERSTAND WHAT NUTRITIOUS FOOD YOUR CHILD LIKES TO EAT
- PLAN AHEAD OF EVENTS WITH REGARDS TO FOOD & DRINKS
- FOOD & DRINK INTAKE BEFORE, DURING, & AFTER TRAINING/COMPETITIONS CAN GREATLY IMPACT PERFORMANCE
- WATER IS THE BEST OPTION FOR HYDRATION BEFORE, DURING, & AFTER TRAINING/COMPETITIONS
- HAVE A SNACK WITHIN 30 MINUTES POST-TRAINING/COMPETITIONS
- HAVE A STRONG GOLF NUTRITION PLAN & COOL DOWN RECOVERY PLAN, AS THEY STRENGTHEN AND REPAIR MUSCLES
- IMPORTANT TO EAT A GOOD BREAKFAST DUE TO DEPLETED BODY FUEL STORES OVERNIGHT
- NIGHT BEFORE MORNING ROUNDS, CONSUME MEALS HIGH IN GOOD QUALITY CARBOHYDRATES
- FEMALES ARE GENERALLY AT GREATER RISKS OF SUFFERING FROM VITAMIN & MINERAL DEFICIENCIES



CARBOHYDRATES

Carbohydrates are the most important fuel source that provides Glucose for energy, fuelling all Muscles & the Brain.

SIMPLE:

- Have high glycemic indexes – used for instant energy.
- Preferred timing to ingest is: POST-WORKOUT.
- Put energy into the blood stream & muscles for faster recovery.

COMPLEX:

- Have low glycemic indexes – are absorbed slowly.
- Provide consistent energy levels over long periods of time.

DID YOU KNOW?

THE BRAIN ONLY UTILISES SUGAR (GLUCOSE) FOR ENERGY

IF ATHLETES DON'T CONSUME A DIET RICH IN CARBOHYDRATES ON A DAILY BASIS, THEY COULD EXPERIENCE CHRONIC FATIGUE & POOR PERFORMANCE

RECOMMENDED INTAKE OF CARBOHYDRATES FOR GOLFERS

ATHLETES AGED 4-18

45-65% OF THEIR TOTAL ENERGY INTAKE

=

5-10 g/kg OF BODY WEIGHT PER DAY

FACT
 FOODS WITH HIGH GLYCEMIC INDEXES &
 REFINED CARBOHYDRATES HAVE NO
 NUTRITIONAL VALUE

LONGER TRAINING AND
 COMPETITION TIMES REFLECT A
 GREATER NUMBER OF
 CARBOHYDRATES REQUIRED PER
 INDIVIDUAL

TABLE 1: DETERMINING DAILY GRAMS OF CARBOHYDRATES ACCORDING TO ATHLETES' NEEDS

This table demonstrated how to calculate the recommended grams of Carbohydrates required per kilogram of body weight & in pounds.

- Longer training times require more Carbohydrates (6.0 g).
- Shorter training times require less Carbohydrates (2.5 g).

WEIGHT IN KILOGRAMS	CARBOHYDRATE IN GRAMS	DAILY CARBOHYDRATE INTAKE
	X RANGING FROM 2.5 to 6.0 =	GRAMS

WEIGHT IN POUNDS	CARBOHYDRATE IN GRAMS	DAILY CARBOHYDRATE INTAKE
	X RANGING FROM 2.5 to 6.0 =	GRAMS

TABLE 1.1: EXTENSIVE LIST OF OPTIMAL CARBOHYDRATE SOURCES

GRAINS:

- BROWN, RED, BLACK RICE
- QUINOA, FARRO
- COUSCOUS, BULGUR WHEAT
- BARLEY, MILLET
- ROLLED OATS
- CORN

FRUIT & VEGETABLES:

- RED, PURPLE SWEET POTATOES
- TOMATOES, SPINACH
- OKRA, ZUCCHINI
- CARROTS, CUCUMBERS
- RADISHES, BEETROOTS
- BROCCOLI, ASPARAGUS
- PEAS, BEANS, & GREEN BEANS
- APPLES, PEARS, BANANAS, STRAWBERRIES, GRAPEFRUIT, & PRUNES

NUTS, SEEDS, & LEGUMES:

- LENTILS
- KIDNEY BEANS, SOYBEANS
- CHICKPEAS
- SPLIT PEAS



PROTEIN

Crucial for:

- The Immune System
- Building & Repairing Muscles, Hair, Skin, and Nails
- Muscle growth & recovery

FACT

THE BODY DOES NOT STORE PROTEIN

DID YOU KNOW?

THE BODY BREAKS DOWN MUSCLE TISSUE DURING EXERCISE

RECOMMENDED INTAKE OF PROTEINS FOR GOLFERS

ATHLETES AGED 4-18

10-30% OF THEIR
TOTAL ENERGY INTAKE



1.0-1.4 g/kg OF BODY
WEIGHT PER DAY

TABLE 2: DETERMINING DAILY GRAMS OF PROTEIN ACCORDING TO ATHLETES' NEEDS

This table demonstrated how to calculate the recommended grams of Proteins required per kilogram of body weight & in pounds.

WEIGHT IN KILOGRAMS	PROTEIN IN GRAMS	DAILY PROTEIN INTAKE
X	FROM 1.0-1.4	= GRAMS

WEIGHT IN POUNDS	PROTEIN IN GRAMS	DAILY PROTEIN INTAKE
X	FROM 1.0-1.4	= GRAMS

TABLE 2.1: EXTENSIVE LIST OF OPTIMAL PROTEIN SOURCES

SEAFOOD:

- WHITE FISH (SNAPPER, FLOUNDER)
- SHELLFISH (SCALLOPS, SHRIMP, CRAB)
- OILY FISH (SALMON, HERRING)
- TUNA
- ANCHOVIES & SARDINES

POULTRY:

- CHICKEN, TURKEY, EGGS

DAIRY:

- COTTAGE CHEESE, SWISS CHEESE
- MILK, YOGURT

LEGUMES:

- CHICKPEAS
- BLACK BEANS, KIDNEY BEANS, SOY BEANS
- LENTILS
- TOFU

FATS

- A source of energy (back-ups for when Carbohydrates are not available)
- A substance that enables fat-soluble vitamins (A, D, E, K) to be absorbed

OVERCONSUMPTION OF 'TRANS' AND 'SATURATED' FATS MAY LIMIT PERFORMANCE

RECOMMENDED INTAKE OF FATS FOR GOLFERS

ATHLETES AGED 4-18

20-35% OF THEIR TOTAL ENERGY INTAKE



- <10% SATURATED FATS
- 10% POLYUNSATURATED FATS
- 10% MONOUNSATURATED FATS
- INCLUDE SOURCES OF ESSENTIAL FATTY ACIDS

IT IS BEST NOT TO TRY NEW/DIFFERENT FOODS PRIOR TO COMPETITIONS TO AVOID GASTRO-INTESTINAL DISTRESS

TIP

KEEP FOOD LOGS ALONGSIDE TRAINING LOGS TO TRACK FOOD INTAKE BEFORE, DURING & AFTER TRAINING/COMPETITIONS TO ANALYSE ITS EFFECTS ON MENTAL & PHYSICAL PERFORMANCE

FATS ARE ESSENTIAL FOR ALL ATHLETES DIETS, BUT DIETS WITH >35% OF FAT IN THEM ARE NOT RECOMMENDED. DIETS WITH <20% OF ENERGY FROM FATS REDUCES PERFORMANCE



TRANS & SATURATED FATS:

- Referred to as 'bad' fats.
- Typically SOLID at room temperature.
- Mostly Animal Fat.
- Raise blood cholesterol concentrations & contribute to clogged arteries.
- Should be avoided whenever possible.

UNSATURATED FATS:

- Referred to as 'good' fats.
- Typically LIQUID at room temperature.
- Appear as MONOUNSATURATED & POLYUNSATURATED
- Improve biomarkers of health.
- Decrease heart disease risk factors & 'bad' cholesterol.

TABLE 3: EXTENSIVE LIST OF POOR FAT SOURCES

POULTRY & MEATS:

- NON-LEAN MEATS
- POULTRY WITH SKIN

OTHER:

- BAKED GOODS
- PROCESSED FOODS
- FRIED FOODS
- CANDY
- CHIPS
- CREAMS

FULL FAT DAIRY:

- CHEESE
- MILK
- YOGURT

OILS &

BUTTERS:

- PALM OIL
- MARGARINE
- BUTTER

TABLE 3: EXTENSIVE LIST OF OPTIMAL FAT SOURCES

OILY FISH:

- SALMON
- HERRING
- POLLOCK
- SARDINES

OTHER:

- DARK CHOCOLATE
- EGGS
- AVOCADOS

DAIRY:

- CHEESE
- MILK
- YOGURT

OILS & BUTTERS:

- OLIVE & SUNFLOWER OIL
- PEANUT, ALMOND, CASHEW BUTTER

NUTS & SEEDS:

- WALNUTS, HAZELNUTS, MACADAMIAS ETC.
- FLAX, CHIA ETC.



MACRONUTRIENT INTAKE BEFORE TRAINING & COMPETITIONS

MEALS BEFORE TRAINING/COMPETITIONS SHOULD BE:

- Well balanced
- Eaten ~2-3 hours before training/tee-off
- High in complex Carbohydrates (to maintain blood glucose & replenish energy stores)
- Low in Fats & Fibre (to facilitate gastric emptying)
- Moderate in Proteins (to reduce future soreness, regulate energy levels & build/repair muscles)
- Void of greasy, processed foods

TABLE 4: SUGGESTED MEALS PRIOR TO EVENTS WITH GRAMS OF CARBOHYDRATES INDICATED

<1 HOUR BEFORE	SERVING SIZE	GRAMS (g) OF CARBOHYDRATES
GRANOLA BAR	1 BAR	47 g
RAISINS	SMALL BOX (2.5 oz / 71 g)	34 g
BANANA	1 FRUIT	31 g
SPORTS DRINK	8 fl oz / 240 ml	14 g
2-3 HOURS BEFORE	SERVING SIZE	GRAMS (g) OF CARBOHYDRATES
FRESH FRUIT	1 CUP	19 g
YOGURT (non-fat)	1 CUP	33 g
FRUIT SMOOTHIE	12 fl oz / 350 ml	47 g
>4 HOURS BEFORE	SERVING SIZE	GRAMS (g) OF CARBOHYDRATES
TRAIL MIX	1/3 CUP	20 g
TURKEY SANDWICH	1 slice TURKEY / 2 slices BROWN BREAD / 1 tbsp MAYO	24 g
FRUIT JUICE	6 fl oz / 60 ml	18 g
GRANOLA BAR	1 BAR	43 g
GRILLED CHICKEN WITH RICE & FRUIT	3 oz (85 g) CHICKEN / 6 oz (170 g) RICE / 1 cup FRUIT	63 g



**DRINK TO
MAINTAIN
HYDRATION &
REPLACE LOST
ELECTROLYTES
(ESPECIALLY IN
HOT & HUMID
CLIMATES)**

BLOOD GLUCOSE
=
SUGAR FOUND WITHIN THE BLOOD, DELIVERING ENERGY TO WORKING
MUSCLES & ORGANS, ALLOWING THE BODY TO EFFECTIVELY COMPLETE
ACTIVITY

DID YOU KNOW?

LOW BLOOD GLUCOSE LEVELS CAUSE A SLUGGISH FEELING & A DECREASED ABILITY
TO FOCUS, WHICH INEVITABLY DECREASES PERFORMANCE.

**MACRONUTRIENT INTAKE DURING TRAINING &
COMPETITIONS**

Re-hydrates & re-fuels energy utilised, helping maintain
concentration & in turn, the accuracy of the shots.

DID YOU KNOW?

ONLY CONSUMING SIMPLE CARBOHYDRATES WITH HIGH SUGAR CONTENT
RESULTS IN SUDDEN SPIKES & CRASHES IN ENERGY.

**RECOMMENDED FLUID INTAKE FOR GOLFERS DURING
TRAINING/EVENTS**

TIP

EAT SMALL
AMOUNTS,
REGULARLY
THROUGH-
OUT THE
ROUND

PLAIN (OR DETOX) WATER IS ALWAYS THE BEST
OPTION

(it's needed to aid Carbohydrate absorption)

6 - 12 oz (180 -360 ml) OF A SPORTS DRINK WITH
6-8% CARBOHYDRATE CONCENTRATION EVERY 15-30
MINUTES DURING EXERCISE

TABLE 5: SUGGESTED SNACKS TO CONSUME DURING A GOLF ROUND

FRUIT & VEGETABLES	WHOLE-GRAINS	OTHER FOOD
CARROTS, CELERY, CHERRY TOMATOES	CRACKERS, CEREAL, WAFERS	CHOCOLATE MILK, SPORTS DRINKS
BANANAS, APPLES	GRANOLA BAR, TRAIL MIX	COTTAGE CHEESE, YOGURT
DRIED FRUIT	TURKEY SANDWICH BITINGS	HUMMUS, PEANUT BUTTER

DON'T CONFUSE SPORTS DRINKS WITH "ENERGY" DRINKS (TYPICALLY CONTAIN STIMULANTS & HIGH CARBOHYDRATE CONCENTRATIONS)

RULE OF THUMB

GOLFERS SHOULD TAKE A SMALL MOUTHFUL OF WATER ON THE TEE.

THEN ANOTHER WHEN THEY REACH THEIR TEE SHOT.
THEN THE THIRD WHEN THEY REACH THE GREEN... ON EVERY HOLE.

MACRONUTRIENT INTAKE AFTER TRAINING AND COMPETITIONS

RECOMMENDATIONS ARE AS FOLLOWS:

- Include Carbohydrates (simple & complex) - to replace muscle glycogen, ensure rapid recovery
- Introduce Proteins - as they provide amino acids for building & repairing muscle tissue
- Intake 0.5-0.7 g/lb (1.0-1.5 g/kg) of Carbohydrates per body weight lost within 30 minutes post-training/competition
- Drinking at least 16-24 oz (450-675 ml) of fluid for every pound (0.5 kg) of body weight lost during exercise.

ATHLETES INDIVIDUAL NEEDS ARE FUNDAMENTAL - THEY SHOULD ENSURE THEY KNOW WHAT WORKS BEST FOR THEM & HAVE ACCESS TO SUCH FOODS AT THE APPROPRIATE TIMES

TABLE 6: SUGGESTED SNACKS TO CONSUME AFTER A GOLF ROUND

- 
- | | |
|--------------------------|--------------------------------|
| - CHOCOLATE MILK | - PITA BREAD & HUMMUS |
| - SMOOTHIE | - TRAIL MIX |
| - PEANUT BUTTER TOAST | - RAW VEGGIES & HUMMUS |
| - YOGURT & GRANOLA | - UNFLAVOURED POPCORN |
| - FRESH FRUIT | - NUT & SEEDS |
| - GRANOLA BAR | - DRIED FRUIT |
| - CHEESE & CRACKERS | - RICE CAKES |
| - FRESH FRUIT & YOGURT | - RAW VEGGIES & COTTAGE CHEESE |
| - BANANAS | - FROZEN FRUIT JUICE BARS |
| - BANANA & PEANUT BUTTER | - MINI SANDWICHES |
| - CHEESE & GRAPES | |

- Consuming sodium containing fluids/snacks helps with rehydration by stimulating thirst and fluid retention.
- 30 minutes post-training/competition the individual can ingest a high carbohydrate beverage – followed by eating a high carbohydrate meal after 2 hours

**UNABLE CONSUME SOLID FOODS WITHIN 30 MINUTES POST-TRAINING?
TRY 2-4 CUPS OF A SPORTS DRINK AND INCORPORATE SOLID FOODS 2 HOURS
AFTER EXERCISE**

**EASY-TO-DIGEST
CARBOHYDRATE FOODS
ARE IDEAL, PROVIDING
QUICK SUGARS AND
FLUIDS**

**SNACKS SHOULD INCLUDE: FLUIDS, PROTEIN, &
CARBOHYDRATES, CONSUMED WITHIN 15-30
MINUTES AFTER TRAINING/GOLF ROUNDS**

VITAMINS

Athletes that restrict their energy intake are at greater risk of micronutrient deficiencies.

Eliminating >1 food groups, consuming unbalanced meals, & low micronutrient dense diets all lead to deficiencies.

DID YOU KNOW?

ATHLETES LIVING IN NORTHERN LATITUDES & THOSE THAT TRAIN INDOORS ARE MORE LIKELY TO BE VITAMIN D DEFICIENT

THE MOST COMMON VITAMIN DEFICIENCIES IN ATHLETES ARE VITAMINS: D, E, C, THE B'S



VITAMIN D

- Absorbs & regulates calcium
- Regulates phosphorous
- Regulates the development & homeostasis of skeletal muscle & the nervous system
- Promotes bone health

RECOMMENDED INTAKE OF VITAMIN D

CHILDREN AGED 4-18



600 IU PER DAY

TABLE 7: TOP SOURCES OF VITAMIN D

SEAFOOD (MOSTLY OILY FISH):

- SALMON
- HADDOCK
- HERRING
- TUNA
- MACKEREL
- SARDINES

- SUNLIGHT
- FORTIFIED BREAKFAST CEREAL & ORANGE JUICE
- CHEDDAR CHEESE
- YOGURT & MILK
- EGGS, CHICKEN, PORK & BEEF
- MUSHROOMS



VITAMIN C (ANTIOXIDANT)

Physical performance can be compromised with deficiencies and low levels.

RECOMMENDED INTAKE OF VITAMIN C

MALES AGED 4-18



15-75 mg PER DAY

FEMALES AGED 4-18



15-65 mg PER DAY

TABLE 7.1: TOP SOURCES OF VITAMIN C

VEGETABLES:

- KALE
- POTATOES
- CAULIFLOWER
- BROCCOLI
- BELL PEPPERS
- SPINACH

FRUIT:

- PAPAYA
- CITRUS FRUITS
- STRAWBERRIES
- KIWIS
- PINEAPPLE
- MELON
- MANGO

VITAMIN E (ANTIOXIDANTS)

Attenuates DNA damage from exercise & enhances recovery.

Exceeding recommended amounts have negative effects.

RECOMMENDED INTAKE OF VITAMIN E

CHILDREN AGED 4-18



6-15 mg PER DAY

TABLE 7.2: TOP SOURCES OF VITAMIN E

NUTS & SEEDS:

- ALMONDS
- SUNFLOWER SEEDS
- HAZELNUTS
- PINE NUTS
- PEANUTS
- BRAZILIAN NUTS

OILS:

- ALMONDS
- SUNFLOWER
- HAZELNUTS

MEAT & SEAFOOD:

- GOOSE
- SALMON
- TROUT

FRUIT &

VEGETABLES:

- TURNIPS
- MANGO
- KIWI
- AVOCADOS
- BELL PEPPERS
- OLIVES
- MOST BERRIES

B - VITAMINS

Produce optimum energy (B1, B2, B3, B5, B6, & B7)

Produce red blood cells, synthesise proteins, repair tissue, & maintain the body – including the central nervous system

Exercise may increase the need for B-vitamins, which can be met with higher energy intakes.

DID YOU KNOW?

SEVERE B-12 AND/OR B9 DEFICIENCIES CAN RESULT IN ANAEMIA AND REDUCE ENDURANCE PERFORMANCE.

IT'S IMPORTANT THAT ATHLETES CONSUME ADEQUATE AMOUNTS OF B-VITAMINS TO SUPPORT THEIR EFFORTS FOR OPTIMAL PERFORMANCE AND HEALTH

B-VITAMINS INCLUDE:

B1 (THIAMIN), B2 (RIBOFLAVIN), B3 (NIACIN), B5 (PANTOTHENIC ACID), B6 (PYRIDOXINE), B7 (BIOTIN), B9 (FOLIC ACID), & B12 (COBALAMIN)

DID YOU KNOW?

B2, B5, B9, & B12 ARE FREQUENTLY LOW IN FEMALE ATHLETES (ESPECIALLY VEGETARIANS OR THOSE WITH EATING DISORDERS)

TABLE 7.3: TOP SOURCES OF VITAMIN B

MEAT & POULTRY:

- PORK, CHICKEN, TURKEY, BEEF & EGGS
- ORGAN MEATS

SEAFOOD:

- SALMON
- OYSTERS, CLAMS, & MUSSELS
- TROUT

LEGUMES:

- CHICKPEAS
- EDAMAME
- BLACK BEANS
- GREEN PEAS
- LENTILS

NUTS & SEEDS:

- SUNFLOWER SEEDS

OTHER:

- FORTIFIED BREAKFAST CEREAL
- NUTRITIONAL & BREWERS' YEAST
- YOGURT & MILK
- DARK LEAFY GREENS



CALCIUM, IRON, ZINC, & MAGNESIUM ARE TYPICALLY LOW IN THE DIETS OF ATHLETES (PARTICULARLY FEMALES) DUE TO ENERGY RESTRICTION OR AVOIDANCE OF ANIMAL PRODUCTS

MINERALS

DID YOU KNOW?
CALCIUM & VITAMIN D ARE COMPLIMENTARY & WORK TOGETHER

CALCIUM

- Needed for bone health (growth, maintenance, & repair of bone tissue)
- Regulates enzyme activity, muscle contraction, & nerve conduction
- Maintains blood calcium levels
- Crucial for blood clotting

Inadequate levels increase risks of low bone mineral density & stress fractures.

TABLE 8: TOP SOURCES OF CALCIUM

<p><u>LEGUMES:</u></p> <ul style="list-style-type: none"> - LENTILS - BEANS - TOFU 	<p><u>DAIRY:</u></p> <ul style="list-style-type: none"> - CHEESE (PARMESAN) - YOGURT, MILK <p><u>VEGETABLES:</u></p> <ul style="list-style-type: none"> - DARK LEAFY GREENS 	<p><u>SEAFOOD:</u></p> <ul style="list-style-type: none"> - SALMON, SARDINES <p><u>NUTS & SEEDS:</u></p> <ul style="list-style-type: none"> - CHIA, POPPY, SESAME - ALMONDS
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IRON

- Forms & delivers oxygen to body tissue
- Carries Proteins, Haemoglobin, & Myoglobin
- Useful for enzymes involved in energy production

Adolescents require more Iron to support growth, as well as increase blood volume & lean muscle mass.

Oxygen is essential for endurance exercise & normal function of the Nervous, Behavioural, & Immune Systems.

DEFICIENCIES

Common in athletes due to diets poor in meat, fish, & poultry or due to increased iron excretion.

TIP

FEMALE ATHLETES, VEGETARIANS, & DISTANCE RUNNERS SHOULD BE SCREENED PERIODICALLY FOR IRON STATUS

DID YOU KNOW?

REVERSING IRON DEFICIENCY ANAEMIA CAN REQUIRE 3-6 MONTHS.

ANAEMIA

=

DEFICIENCY OF RED BLOOD CELLS OR OF HAEMOGLOBIN IN THE BLOOD

TABLE 8.1: TOP SOURCES OF IRON

LEGUMES:

- LENTILS
- CHICKPEAS
- PEAS
- TEMPEH
- BEANS
- TOFU

VEGETABLES &

FRUIT:

- DARK LEAFY GREENS
- BROCCOLI
- POTATOES
- CABBAGE
- FIGS
- DATES
- RAISINS
- PRUNES

PROTEIN:

- BEEF, LAMB, HAM, PORK
- CHICKEN, TURKEY
- EGGS
- CLAMS, SHRIMP, OYSTERS, SCALLOPS
- TUNA, SARDINES, MACKEREL, HADDOCK

NUTS & SEEDS:

- PISTACHIOS, ALMONDS, CASHEWS, MACADAMIA, PINE NUTS
- FLAX, SESAME, HEMP, PUMPKIN



ZINC

- Fundamental for growth, building, & repair of muscle tissue
- Required for energy production
- Needed in the immune system

Diets low in animal protein, high in fibre, & vegetarian diets are associated with decreased Zinc intakes.

Deficiencies result in reduced cardiorespiratory function, muscle strength & endurance.

Additional levels lead to greater amounts of 'bad' cholesterol in the blood & nutrient imbalances.

TABLE 8.2: TOP SOURCES OF ZINC

OTHER:

- DARK CHOCOLATE
- POTATOES
- KALE
- GREEN BEANS

LEGUMES:

- CHICKPEAS
- LENTILS
- BEANS

WHOLE-GRAINS:

- QUINOA
- RICE
- OATS

DAIRY:

- MILK
- CHEESE

PROTEIN:

- RED MEAT
- EGGS
- SHELLFISH

NUTS & SEEDS:

- PINE NUTS
- PEANUTS
- CASHEWS
- ALMONDS

MAGNESIUM

- Regulates membranes, as well as neuromuscular, cardiovascular, immune and hormonal functions
- Aids the growth, building, & repair of muscles

Deficiencies impair endurance performance by increasing oxygen requirements.

POTASSIUM

- Balances body fluids & electrolytes
- Responsible for nerve transmissions
- An active transport mechanism

During intense exercise, concentrations decline.





SODIUM

A critical electrolyte, particularly for athletes with high sweat losses.

CHLORIDE

Mainly required for electrolyte balance.

TABLE 8.3: TOP SOURCES OF MAGNESIUM, POTASSIUM, SODIUM, & CHLORIDE

MAGNESIUM:

- DARK CHOCOLATE
- AVOCADOES
- NUTS & SEEDS
- DARK LEAFY GREENS
- BANANAS
- LEGUMES
- OILY FISH
- TOFU

POTASSIUM:

- BEANS & BEETS
- SPINACH
- TOMATOES
- ORANGES & BANANAS
- AVOCADOES
- YOGURT
- SALMON, CLAMS

SODIUM:

- SHRIMP
- SOUP & BROTHS
- COTTAGE CHEESE
- BREAD
- CANNED LEGUMES
- CHEESE
- DRIED MEATS & COLD CUTS
- POPCORN

CHLORIDE:

- CHEESE
- CANNED FISH
- PROCESSED MEATS (HAM, BACON, SAUSAGES)
- SAUCES (SOY)



HYDRATION

Proper hydration is a crucial for optimal performance.

Dehydration increases the risk of threatening heat injuries (heat stroke).

The best way to prevent dehydration is to maintain body fluid levels by consuming plenty of fluids before, during, and after training/competitions.

RECOMMENDED WATER INTAKE

2 L PER DAY IN REGULAR, SMALL AMOUNTS

IDEALLY DRINK/SIP WATER EVERY 15-20 MINUTES.

BEFORE EVENT: ~500 ml OF WATER

DURING EVENT: DRINK AT REGULAR INTERVALS, SIP CONSISTENTLY THROUGH EACH HOLE

NATURALLY FLAVOURED WATERS ARE A GOOD OPTION

AVOID CAFFEINATED, SUGARY, & CARBONATED DRINKS

DRINKING CONSISTENTLY FROM PRE-GAME TO THE VERY END WILL ENSURE PROPER HYDRATION & A SHARP/FOCUSED MIND

DID YOU KNOW?

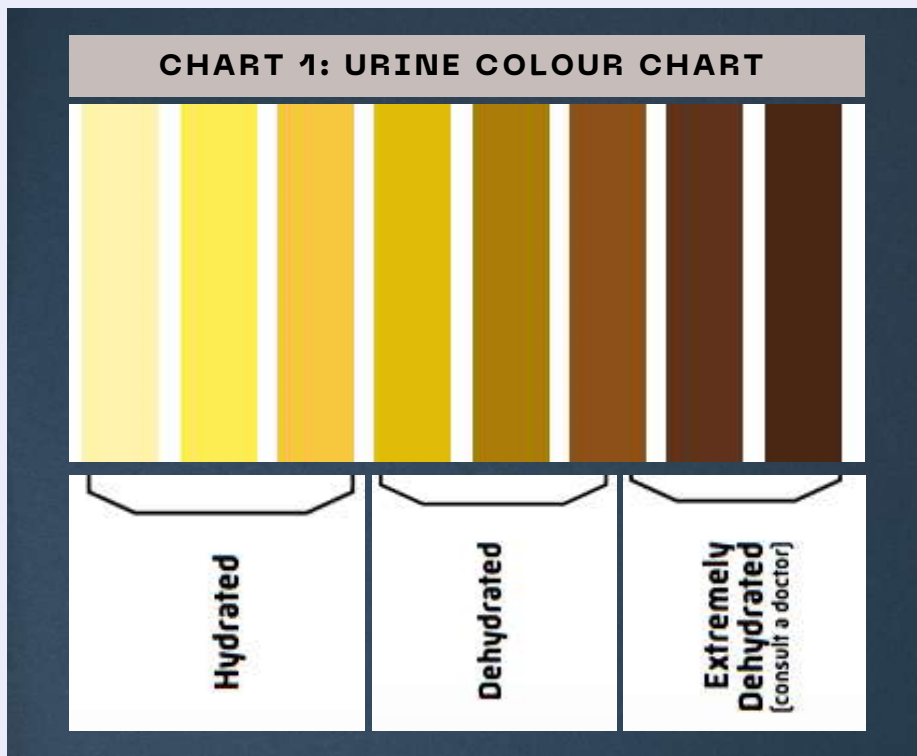
A 1% DECREASE IN HYDRATION = 5% DECREASE IN MUSCLE FUNCTION, FOCUS, & CONCENTRATION

**FLUIDS HELP REGULATE
BODY TEMPERATURE,
AND REPLACE LOST
SWEAT & ELECTROLYTES
DURING EXERCISE.**



Check urine colour (using Chart 1)

Dark gold indicates dehydration.
Pale & clear is a sign of good hydration.



DID YOU KNOW?

LOSING AS LITTLE AS 2% OF TOTAL BODY WEIGHT, DUE TO LOSS OF FLUIDS, CAN NEGATIVELY AFFECT THE ATHLETES PERFORMANCE

Consumption of beverages with electrolytes, carbohydrates, sodium, & potassium helps sustain fluid electrolyte balance and endurance performance.

HOT TEMPERATURES + HIGH HUMIDITY

=

MORE SWEAT

=

MORE FLUID REQUIRED TO MAINTAIN HYDRATION

DID YOU KNOW?

THIRST IS A SIGN OF DEHYDRATION, SO IT'S ADVISED TO DRINK BEFORE FEELING THIRSTY



REFERENCES

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3787285/>

Carbohydrate Intake Considerations for Young Athletes

<https://ods.od.nih.gov/factsheets/VitaminE-HealthProfessional/>

Vitamin E - Health Professional

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Vitamin C - Health Professional

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