

NUTRITION SUPPORT - BONE & JOINT INJURY RECOVERY

Focus on nutritional strategies to support recovery from bone fractures for a faster return to your daily activities and training/competition.

KEY ELEMENTS IN SUPPORTING BONE AND JOINT INJURY RECOVERY

DO'S

- Aim to meet calorie needs which are higher than expected due to the extra energy needed for healing.
- Increase dietary protein to help prevent a loss of muscle mass that can otherwise occur during injury. Aim for 20-40g every 2-4 hours daily.
- Increase anti-inflammatory foods to promote healing and recovery.

DONT'S

- Avoid taking omega-3 or curcumin supplements during the first week post-injury as this will interfere with the body's natural healing process.
- Limit consumption of alcohol, refined sugars, high saturated and trans fats foods, and processed foods as they may contribute to inflammation.

MEET YOUR ENERGY AND NUTRIENT NEEDS

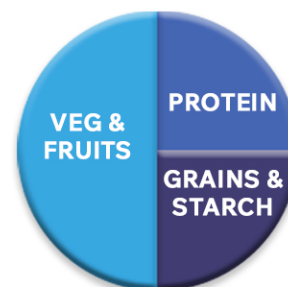
- Consume a nutritionally balanced meals and snacks every 2-4 hours.
- Refer to the "plate rule" (pictured here) at all meals, representing your plate with appropriate amounts of carbohydrates based on activity level.
- Choose complex carbohydrates as your grain/starch, such as:
 - ✓ Whole grains: brown/wild rice, whole grain pasta, quinoa, barley, whole grain breads, sprouted grain products, etc.
 - ✓ Starchy vegetables: yams/sweet potatoes with skin, squash, corn, etc.
- Include at least 1 serving of vegetable and/or fruit at all meals and snacks, getting a variety of bright colours throughout the day.
 - ✓ Strive for 2-3 different colours of vegetables and/or fruit at meals.
- Aim for 20-40g protein from lean sources at all meals & snacks.

~20g Protein Choices:	~10g Protein Choices:
3 oz/85 g meat/poultry/fish/seafood	½ cup nuts/seeds / 3 tbsp hemp seeds
½ cup legumes / 1 cup edamame / 1 cup tofu	2 heaping tbsp natural nut butter
2-3 eggs / 2 oz/55 g cheese (2 tbsp)	1 cup soy milk / 2 cup oat milk
1 cup milk/yogurt / 2/3 cup Greek yogurt	½ cup hummus / 1 cup quinoa

- Aim for 3-4 servings of calcium-rich foods daily (1000-1200mg)

1 Serving (~300mg calcium)	1/3 Serving (~100mg Calcium):
1 cup milk / milk alternative	40g cheese (~3 dice size)
1 cup yogurt / oat or coconut yogurt (fortified)	85g sardines with bones
	1/3 cup (83g) tofu
	1/3 cup almonds
	1 cup cooked chickpeas, cannellini beans
	1.5 cup cooked red kidney beans

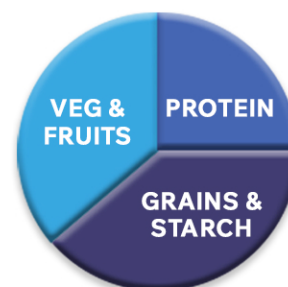
EASY DAY



Healthy
Fats: 1 tsp



MODERATE DAY



Healthy
Fats: 1 tbsp



PROTEIN

BUILD & REPAIR

CARBOHYDRATES

ENERGIZE

VEGGIES & FRUITS

PROTECT & RECOVER





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COMBAT INFLAMMATION:

Foods containing high amounts of antioxidants, key nutrients, and omega-3 fatty acids can help fight excess inflammation. Increase your intake of anti-inflammatory foods listed below.

HEALTHY FATS

- Olive Oil
- Fatty Fish:
Salmon, Mackerel, Sardines, Black Cod, Herring, Tuna, Oysters
- Nuts / Seeds, Nut Butters
- Chia / Flax Seeds

VEGETABLES / FRUIT

- Brightly Coloured Fruits & Vegetables
Berries, Citrus Fruits, Tart Cherry, Dark Leafy Greens etc.
- Garlic, Onions, Ginger
- Legumes:
Beans, Chickpeas Lentils, Edamame etc.

OTHER

- Green / Black Tea
- Dark Chocolate (70% cocoa or higher)
- Turmeric
- Chilli Peppers and Spices
- Whole Grains

COMBAT INFLAMMATION:

Limit your intake of foods that can contribute to inflammation such as:

FOODS HIGH IN SATURATED / TRANS FATS

- High Fat Dairy
Cheese, Butter, Cream etc.
- Baked Goods Made With Butter, Cream etc.
- Fattier Cuts of Meat
- Pre-Packaged Foods Containing
(Look for 0 Trans Fats on Label)

FOODS HIGH IN REFINED SUGARS

- Candies
- Sugar Beverages
- Commercially Baked Goods
- Sports Beverages

FOCUS ON KEY NUTRIENTS FOR RECOVERY

Nutrient	Food Sources	Bone Healing	Joint Healing	Wound Healing
Arginine	Sesame seeds, shellfish, frozen spinach, seaweed, turkey			x
Calcium	Milk/milk alternatives, cheese, yogurt, sardines, tofu, beans, almonds, leafy greens	x		
Collagen	Bone broth, gelatin, meat, fish, eggs	x	x	
Copper	Liver, oysters, chocolate, potatoes, mushrooms, cashews, sunflower seeds			x
Dietary Nitrates	Beets, celery, leafy greens, kohlrabi, cabbage			x
Glutamine	Meat, seafood, milk, nuts, eggs, cabbage, beans			x
Iron	Red meat, fortified cereals, lentils, beans, molasses, pumpkin seeds			x
Magnesium	Pumpkin seeds, chia seeds, other nuts, spinach, beans	x	x	
Omega 3	Salmon, mackerel, sardines, black cod, herring, tuna, oysters, chia/flax seeds			x
Vitamin A	Liver, sweet potato, carrots, frozen spinach, peppers, mango, cantaloupe			x
Vitamin C	Red pepper, citrus fruit, kiwi, green pepper, strawberries, broccoli	x		x
Vitamin K2	Organ meat, chicken, beef, ham, egg yolks, butter, whole milk products, cheese, natto	x		
Vitamin D	Trout, salmon, mushrooms, fortified dairy/alt., sardines	x	x	x
Zinc	Oysters, shellfish, beef, pork, chicken, beans, fortified cereals	x	x	x

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DIETARY SUPPLEMENTS TO CONSIDER:

Try to meet your nutritional needs primarily through diet if possible. Consider supplementing your diet with the recommended dietary supplements if needed. HW and Sport Science clinics are happy to offer a wide range of supplements endorsed by Ashley Charlebois, RD. Should you wish to seek out your own products, please be diligent in ensuring their quality and their certifications as clean and safe supplements.

	Supplement	Role	Recommendations
Usually beneficial	Vitamin D	Improves muscle strength & wound healing	<ul style="list-style-type: none"> 2000 IU/day (non-summer months), or as recommended based on blood test level
	Vitamin K2	Improves bone strength and facilitates building new bone tissue	<ul style="list-style-type: none"> 200 mcg/day
	Collagen + Vit C	Rebuilds structural protein (collagen) in bones and joints	<ul style="list-style-type: none"> 10-15g collagen + 50mg vitamin C (food or supplement) 1 hour prior to physio/activity
	Omega 3s	Reduces inflammation, promotes healing, reduces nerve pain	<ul style="list-style-type: none"> After first 1-2 weeks of injury, take 3-5d g/day
Sometimes beneficial	Calcium	Supports bone healing if not meeting needs through diet	<ul style="list-style-type: none"> 200-600mg to supplement diet (consult Dietitian for specific amount)
	Magnesium	Supports bone healing if not meeting needs through diet	<ul style="list-style-type: none"> 100-150mg to supplement diet (consult Dietitian for specific amount)
	Curcumin	Reduces inflammation if in excess	<ul style="list-style-type: none"> After first 1-2 weeks of injury, 500mg 2x/day
	Creatine Monohydrate	Reduces muscle loss if not meeting needs through diet	<ul style="list-style-type: none"> 20g/day split into 4x 5g doses for first 5 days; OR 3-5g/day if were already taking & as maintenance
	Whey (with 2-3g leucine)	Reduces muscle loss if not meeting needs through diet	<ul style="list-style-type: none"> 20-40g 1-3x/day depending on dietary habits

Note: There is always a risk that dietary supplements taken will not provide the benefits they claim and may contain harmful substances that could result in adverse health effects to health and performance. Third-party tested products taken using the evidence-based protocols described above minimize risks, but ultimately the client is responsible for accepting any associated risks.

For personalized dietetics services and to get the best possible results in your rehab and performance, book and consultation with our Performance Dietitian, Ashley Charlebois.



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