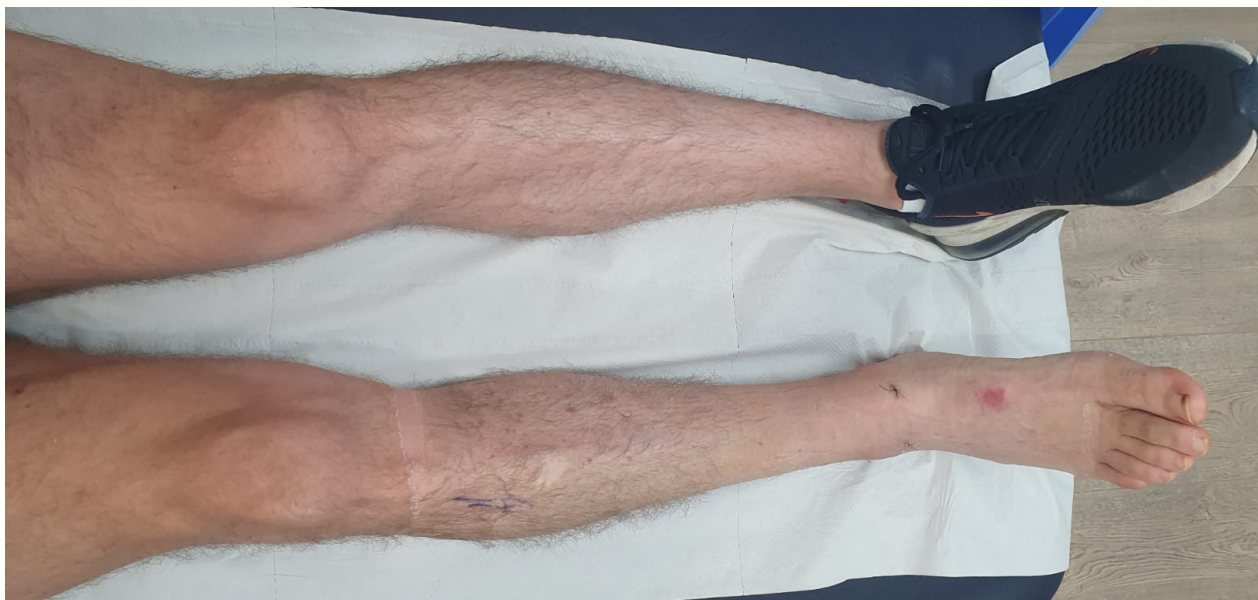


NUTRIZINE

Sport Ireland Institute's Performance Nutrition Newsletter



Welcome Note

Performance Nutrition Team

Welcome to our latest Nutrizine edition. We hope you are all continuing to keep safe and well and are enjoying your return to training.

For most athletes, an injury is something that you will have to cope with at some stage during your sporting career. Our own David Tobin picked up a nasty injury during his return to GAA recently and has written about his experiences of applying injury nutrition principles during his rehab. Hopefully this is something that you don't need to apply right now, but might be useful if you do pick up an injury in the future.

We have also included a 'Food-on-the-go' section this month as most of you are back training but with limited (if any) kitchen facilities open to you. In order to make sure you are fuelling appropriately and at the right times, having a 'lunch-box' of essentials is key at this time.

As always, we hope you enjoy this edition, and if you do have any suggestions for content for future editions, or would like to feature in our 'A Day in the Life' section, please do let us know.

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'A DAY IN THE LIFE' - ROWER AILEEN CROWLEY FEATURES THIS MONTH

Eating on the Go

As the days of lounging around chilling out in the athlete zone, refuelling in your own time between sessions, are still a distant memory we must spend a bit more time planning our in-between session recovery snacks and packing our kit bags with appropriate nutrition to fuel our training in a timely manner. Some tips to help with this include the following:

- Invest in a good cool bag / ice block to keep lunch / drinks cold
- Remember to wash hands before eating
- Keep hand sanitiser in your kit bag / lunch bag
- Remember your 3 R's of Recovery - Rehydrate (fluids), Refuel (energy source / replace glycogen), Repair (protein source) - this should help form the basis of all food selected for your kit bag
- Plan your day - what time is your session at? How long will it take to get there & back? When will your next main meal be?



KIT-BAG NUTRITION ESSENTIALS



1. REHYDRATE: FLUIDS

Own Water Bottle - Remember dehydration can affect concentration, reaction times and decision making - carry your own bottle with you to training / whilst travelling

Post Gym Protein Based Drink - for example smoothie, flavoured milk, protein shake

2. REFUEL - ENERGY

Energy is needed to maintain concentration and fuel your training session

Choose something that you can eat on the go, is easy to digest and will keep your energy stores going until your next meal, e.g.

Banana
Flapjack
Filled Wrap
Energy Bites
Rice Cakes with Peanut Butter



3. REBUILD - PROTEIN

Protein is needed to help your muscles repair and rebuild after your training sessions - always make sure to include a protein source with all your meals and snacks, especially in between gym & skills

Post gym smoothie / Flavoured milk / Protein Shake / Yogurt Pot / Egg muffins



KIT BAG CHECKLIST

Hand Sanitizer
Cool Bag / Ice Block
Water
Recovery Snacks covering your 3 R's of Recovery - Rehydrate, Refuel, Rebuild



Mini Egg Muffins

Makes: 9 muffins

Level of Difficulty: Easy

Time: 5 mins prep + 15-18 mins to cook

Ingredients:

- 6 eggs
- Handful chopped spinach leaves
- Pick 2 veg (Handful) chopped cherry tomatoes / red pepper / broccoli
- Pick a meat of choice - 100g chopped ham / chicken / turkey / smoked salmon
- Cheese of choice (feta/cheddar/goats)
- Salt & Pepper & chilli flakes (if you like)

Method:

- Pre heat oven to 210 degree C.
- Line your muffin tin with bun cases or use a non-stick muffin tray
- Whisk the eggs, add all the chopped ingredients and salt & pepper.
- Divide evenly between the 6 cases (use a spoon to lift out veg/meat into all cases)
- Bake for 15-18 minutes until the muffins are puffed up and set.
- They can be served warm or cold.



The Injury Experiment!

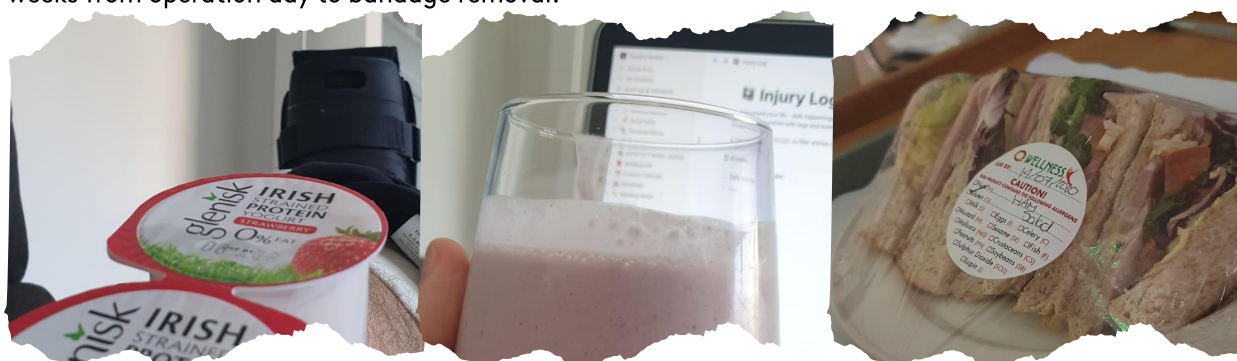
By David Tobin

In early July I decided to turn myself into a human guinea pig...sort of!

I managed to fracture my fibula in two places at the ankle joint and damage some of the ligament while I was at it. No point in half doing it. I had to have a plate and tightrope put in to help with the mending and have about 3 months rehab to get done before I can jog in a straight line.

Previously, when I was competing in athletics this type of injury probably would have been the 'end of the world', but this time round I've seen it as an opportunity to experiment with some of the nutrition interventions we typically advise for our injured athletes. That mindset shift along with talking to some of you guys over the past 3 years in the Institute has definitely helped me keep a more positive outlook on the situation.

So...here's a snippet of what the recovery process has looked like in the first 3 weeks from operation day to bandage removal.



Overnight in Hospital

I had the operation at 4.30pm and was meant to fast from 6am that morning but I didn't particularly fancy getting up around 5am for food knowing I probably wasn't going to get much sleep that night either. As a result I ended up fasting for 24 hours.

Luckily, I had a think about possible hospital grub and pitfalls there. What might I need to bring with me to get myself sorted post-op.

So my overnight bag looked something like this:

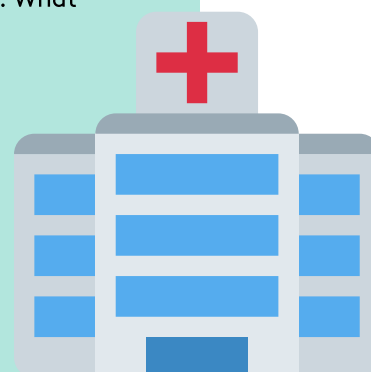
- > 1 pair of PJ's
- > 1 pair of boxers
- > 1 sock
- > 1 t-shirt
- > 2x granola bars
- > 2x bananas and an apple
- > 2 scoops of whey protein

Why did I pack the food items?

The granola bars were made with extra nuts and nut butter to ramp up the energy provided by them and to plug some of that 24 hour gap.

The fruit were to enhance the nutrient quality a small amount as I wasn't 100% sure if I'd get much in the way of colour on my plates.

The protein was to start the recovery process and to supplement the meals I was going to get. I knew for a lad my size the portions wouldn't be sufficient.



The Injury Experiment!

Post Operation Tips



1. Take time before the operation to think through possible barriers to your recovery - get solutions in place or have a plan to manage them
2. Set clear goals for your recovery
3. Get the pen and paper out or check out apps like Notion for keeping a journal
4. Lean on the supports around you as much as you need

Not one for journaling but this has been a game changer. Can easily reflect on positives and see trends with the negatives e.g. walking too much = more pain

My Goals



I set 3 goals for myself over the course of the recovery process.

1. At an absolute minimum, maintain my weight
2. Minimise lean mass losses
3. Support the recovery time

How?



1. Calorie intake of 35kcal per kg. This is only about 200-300kcal less than when I was uninjured. This is really the key for me, if weight is going down then that means there's a calorie deficit and my recovery isn't as efficient or effective as it could be. Setting me up to fail in the longer-term. If I gain weight, so what! I want to recover better.
2. Increase protein intake to between 2.2-2.4g/kg and have that spread over 6 feeds. Being immobilised means that I'll have less of a stimulus to turnover and rebuild the muscle potentially leading to loss of muscle. To make the return from injury that bit easier it's important the losses are minimised. Nutrition provides the main stimulus for holding onto my lean mass. Prioritising protein in feeds every 3-4 hours will stimulate growth more throughout the day.
3. Through the combo of this plus some smart supplementation the aim is to speed up the recovery time as much as possible.

Supplementation should be guided by your nutritionist. In my case...me. So I'm using creatine monohydrate 5g/d and a high dose fish oils capsule.

Both help with muscle growth & rebuilding
Fish oil will help improve omega-3 intake and as a result recovery



What threats to success have I picked up on?

1. Food availability - arguably the most difficult, particularly in the first 2 weeks. Very little time can be spent standing upright so to prepare all the food is a big challenge. Luckily I had a great in-house chef, but for those that don't look at the meal delivery companies for all your meals then add your colour to them as some of them can be short on that.
2. Appetite can be very low due to the lack of activity plus the pain relief meds. It's important to go back to your goals for this one...what are you trying to do and why do you need that feed. Then look at what you can do to get calories in, without necessarily needed to physically eat - soups, smoothies and sweetening snacks are good solutions here.

No doubt as I start to rehab more I'll pick up on more challenges, but for now from the couch these are the ones!



Athlete Bone Health

By Conor Raleigh

It is important for athletes to not only consider the short-term risks of bone injury during their career but also the long-term risk of conditions such as osteoporosis that typically appear later in life. A max bone mass is achieved before the age of 30 and following this there is an age associated loss of bone mass and it is very difficult to offset this age-related loss in bone mass in an individual with a history of poor bone health and injury. Sports involving high impact forces and multidirectional movements have been shown to have a positive effect on bone health, however, the timing and frequency of this mechanical loading is important, especially in the developing athlete. It is also important to consider the impact of short-term and long-term nutritional practices on bone. There are a number of nutritional practices that are particularly relevant to athletes with regards to bone health including: energy availability, carbohydrate availability, protein intake, vitamin D and calcium loss

Energy and carbohydrate availability

In sports with a high energy demand, athletes often struggle to meet energy demands and this can have a severe negative impact on bone health. Prolonged periods of low energy availability have been shown to reduce bone formation and increase bone resorption resulting in a reduction of bone mass and poor bone structure. For purposes such as weight loss or changes in body composition it is recommended to periodise training with reduced energy availability rather maintain the low energy state over a prolonged period. It is also important to consider that carbohydrate should provide the greatest contribution of an athlete's energy and prolonged low carbohydrate diets have been shown to have a negative impact on bone health.

Protein

Protein is an important constituent of the bone matrix and a high protein diet has benefits for bone health. However, if it is consumed in large quantities without an adequate dietary consumption of alkaline foods there can be a release of calcium from the bone to offset the acidic nature of the protein. Therefore, it is highly recommended that athletes who are using very high protein diets consume adequate amounts of alkaline foods and calcium to reduce the potential for bone breakdown.

Vitamin D

Vitamin D plays an important role in calcium metabolism and a major source is sunlight radiation to skin. It is important to consider dietary and supplement sources of vitamin D especially in athletes who may have reduced exposure to sunlight. This includes those who train at an increased distance from the equator, train indoors or use large amounts of protective clothing. The time of year is also important to consider as vitamin D deficiency has been shown to be higher when daylight hours are reduced.

Calcium loss via sweat

Increased loss of calcium via sweat can lead to a release of calcium from bone into the circulation which results in increased bone breakdown. This is especially relevant to endurance athletes who have can experience a prolonged increase in sweating and in rapid weight loss strategies via dehydration. If sweat loss is expected to be high it is recommended to consume calcium as part of a pre exercise meal.

NUTRITION FOR BONE HEALTH

MAJOR ATHLETE CONSIDERATIONS

ENERGY AND CARBOHYDRATE AVAILABILITY

Energy availability important for short and long term bone health

Carbohydrate should form the largest component

30 – 45 kcal per kgLBM per day

CALCIUM

99% of calcium stored in bone - aim to maintain this and reduce calcium release from bone

Calcium is part of sweat - if high sweat loss expected consume calcium in pre-exercise meal

Source: dairy, green leafy veg, soybeans, white beans

PROTEIN

Major constituent of bone

Protein such as chicken, eggs, fish are acidic - very high protein diets can lead to calcium release from bone to offset acidity

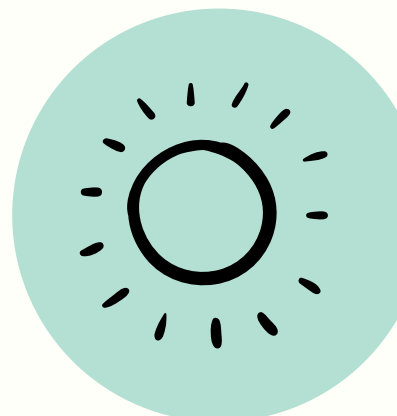
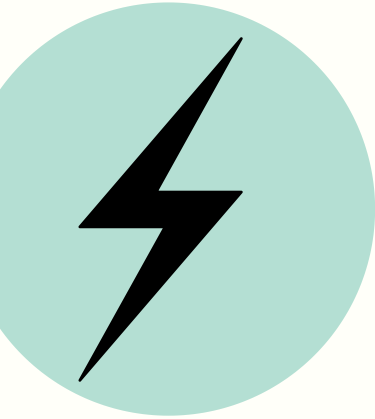
If consuming a very high protein diet (>2.2 g per kg body mass per day) ensure calcium consumption is adequate

VITAMIN D

Important in calcium processing

Sunlight is a key source and reduced exposure can lead to deficiency

Consider supplementation or fortified foods





Recipe of the month - Thai Beef Salad

by David Tobin

Prep Time: 15mins - Cook Time: 15mins - Difficulty: Easy

Serves: 6

Ingredients:

2 x tbsp fresh lime juice (1/2 - 1 lime)
Zest of 1 lime
1 x tbsp brown sugar
1 x tbsp fish sauce
2 x tsp olive oil
1 x tsp soy sauce
2 x tsp fresh ginger
1 clove garlic, crushed
1 x tbsp lemon grass
700g lean beef* (On the BBQ)
250g cherry tomatoes, quartered
1 large cucumber, sliced
1 red onion, julienne style
1 fresh red chilli halved, deseeded, thinly sliced
½ - 1 bunch fresh mint leaves, roughly chopped
½ - 1 bunch fresh coriander leaves, roughly chopped
½ - 1 bunch fresh Thai basil leaves, roughly chopped
3 x spring onions, chopped
⅓ cup peanuts, chopped
3 kaffir lime leaves, veins removed, finely desiccated
Vermicelli Rice Noodles, to serve

Method:

1. In a jar mix together lime juice, zest, sugar, fish sauce, oil, soy sauce, ginger, lemongrass and garlic.
2. Place the steak in a glass or ceramic dish. Drizzle with half the dressing. Cover with plastic wrap and place in the fridge, turning occasionally, marinate for 2 hours to develop the flavours (think ahead and prepare overnight for more flavour).
3. Preheat a barbecue or chargrill pan on high. Cook steak on grill for 2-3 minutes each side for medium or until cooked to your liking. Transfer to a plate. Cover with foil and set aside for 10 minutes to rest.
4. Meanwhile, cook noodles according to packet instructions.
5. Place the tomato, cucumber, onion, chilli, mint, coriander, basil, spring onions, peanuts and lime leaves in a large bowl.
6. Thinly slice steak across the grain and add to the salad. Drizzle with remaining dressing and gently toss to combine.

#STAYCATION2020 - LET US KNOW YOUR FAVOURITE FOOD LOCATIONS

As we approach holiday season we would be delighted to hear your recommendations for your favourite places to eat within Ireland or hidden gems in your own county that you would like to share. If you send your recommendations along with a picture to @BelievePerformAchieve and use the hashtag #Staycation2020 we will compile a list and add to the next Ezine edition. The Performance Nutrition Team will kick off this month with some of their top recommendations!

Laura's top pick from the Lovely Laois is Bowes Foodhall in Durrow, Co. Laois. If it is a breakfast, brunch or lunch you are looking for then this is definitely worth a visit. My current favourite is the Powerhouse Chicken salad (pictured on right).

Danielle has opted for Tanks and Skinny's, situated along the seaside town of Buncrana, T&S has attracted the attention of both tourists and locals. The food is very tasty, nutritionally balanced and it is a super place for coffee and brunch. You can take in the great views of the lough, and staff are very friendly and organised. A nice chilled atmosphere for anyone looking to relax for a few days this August.



Many thanks to Aileen for taking the time to fill us in on her usual, and Covid-19 lockdown, nutrition habits. Aileen is from Killorglin, Co.Kerry but lives in Ballincollig, Cork. Aileen's proudest sporting achievement to date has been qualifying the women's pair for Tokyo 2020. Aileen, along with partner Monika Dukarska, qualified the boat at the 2019 World Rowing Championships in Austria..



Aileen, did you encounter any difficulties, from a nutrition perspective, during COVID-19 restrictions?

I had to move home for the quarantine period. Typically in Cork in a normal training environment at least 50% of our sessions are on the water. In quarantine 100% of our sessions are on land. Land sessions hit the body harder and you are using more energy in a shorter period than you would have in the water equivalent sessions. So even though our training load was slightly decreased in quarantine I actually needed to eat more to keep up with what I wanted my body to do in training.

Any particular challenges in relation to your nutrition?

In 100% training blocks I need to be consuming upwards of 4000 calories a day. Rather than doing this all through food it's easier to be sipping at shakes like Serious Mass or Oat Gain during and after sessions rather than relying 100% on food.

What is your favourite meal?

I love anything that can be made in one big pot with minimal clean up!

Would you mind telling us what a 'Typical Day' looks like nutrition-wise?

For breakfast I always either have porridge or overnight oats. In Cork, in the normal training environment we're on the water at 8.15am for the first session of the day. Purely out of wanting to spend as much time in bed in the morning I always have overnight oats ready to go in the fridge that I eat on route or in the changing room! The last few weeks in quarantine I have been going for porridge because I have more time. I pack both with as much as possible (peanut butter, honey, almonds, sultanas, chia seeds etc) to start my calorie intake on a high for the day ahead.

On the water I would always bring out snacks for during the session typically I have a banana, a Kinetica energy gel and a cereal bar along with a bottle of water and a bottle of electrolytes. In higher intensity sessions I'd drop the cereal bar and bring more electrolytes out instead. In quarantine I have been having a banana and a shake during the morning.

As soon as possible after the morning session I have second breakfast. This is usually a bagel with scrambled eggs, tomatoes and black pudding (high in iron!).



During weights I typically have a Kinetica protein drink and a banana if there wasn't another aerobic session on the plan for later in the day. If there is another aerobic session on the plan or if the next day is a particularly heavy day I would have Serious Mass to keep up the carbohydrate intake to fuel for the sessions to come.

For lunch I generally eat leftovers from the night before like bolognese or something. I try to have it eaten 2hrs before the start of the evening session.

For the evening session I usually make a smoothie that I have both before and after training. The volume and intensity of the session usually dictate what I have but usually it's a kinetica gel and electrolytes during the session.

For dinner I like to make big meals every couple of days like curries, shepards pie, bolognese etc so then I only have to cook 2 or 3 times a week.

Before bed in big training blocks I often have a bowl of cereal like rice krispies to get a head start on the calories I'll need for the next days training.

