

What do you need to eat and drink to improve performance?

Sharon Madigan, Accredited Sports Dietitian Sports Institute Northern Ireland

Introduction

Of all the sciences that have been introduced into Gaelic Football over the last number of years, nutrition may have more to offer the footballer than any other. We all need to eat and drink! Choosing appropriate foods and fluids in the correct quantities at the right time will not compensate for a lack of natural ability, a reluctance to undertake the required training nor an absence of tactical ability. But, it is equally clear that a poor diet will prevent the footballer from achieving their full potential. All footballers, whatever level they are competing at have something to gain, from improving performance to ensuring long term good health.

What should footballers eat and drink?

Over the last 6 years I have been working with footballers playing at club, inter-county senior, U-21 and minor level. The focus of the work has been to promote the following recommendations:

- ✓ Achieve a good intake of carbohydrate foods and fluids at a level of at least 6g per kg of body weight. Carbohydrates are the preferred fuel source for football as it is available to the muscles quickly.
- ✓ Ensure that players are adequately hydrated.
- ✓ Ensure that all players are taking enough energy (or calories) to sustain normal living and training requirements. This is especially important for players who may compete at a number of levels.
- ✓ Keep alcohol intake to a moderate intake or avoid completely.
- ✓ Focus on the timing of meals and snacks.
- ✓ Ensure an adequate intake of protein especially when training is heavy
- ✓ Promote a good intake of vitamins and minerals from food sources.
- ✓ To be aware of the difficulties that taking dietary supplements may cause
- ✓ To incorporate the above recommendations into everyday foods which are acceptable to footballers.

What footballers are eating and drinking?

The following table gives a breakdown of the nutrient intake for a few senior inter-county footballers from various Ulster Counties over the last three years.

Table One: Breakdown of Nutrients from Food Diaries

Player	Weight (kg)	Calories	CHO (g)	CHO g /kg	CHO (%)	Fat (g)	Fat g/kg	Fat (%)	Protein g / kg	Protein g / kg	Protein (%)	Alcohol (kcal)	Fluid actual	Fluid Recommended
1	102	3687	453	4.5	46	151	1.48	37	156	1.53	17	0	3619	5100
2	79	3162	478	6.05	57	100	1.27	28	116	1.47	15	0	2459	4300
3	77	2578	375	4.87	54.5	78	1.01	28	115	1.49	17.5	0	1414	4200
4	97	2208	319	3.3	54	80	0.82	33	70	0.72	13	0	2673	4900
5	75.5	3283	439	5.8	50	121	1.6	33	139	1.84	17	0	2262	4150
6	89	3057	278	3.12	34	127	1.43	37	109	1.22	15	14	4526	4600
7	88	1798	195	2.22	41	68	0.77	34	113	1.28	25	0	1589	4600
8	86	2870	282	3.28	37	111	1.29	35	134	1.56	18.5	9.5	3650	4500
9	82	3202	409	4.99	48	121	1.48	34	111	1.35	14	9.5	2835	4400
10	77.5	3711	395	5.10	40.5	133	1.72	32	178	2.3	19.5	8	3867	4200
11	85	2944	327	3.85	42	115	1.35	35	126	1.48	17	6	3037	4500
12	110	2452	234	2.13	36	132	1.2	48.5	96	0.87	15.5	0	4898	5350
13	82	3161	382	4.66	45	133	1.62	38	133	1.62	17	0	2720	4400
14	82.5	2803	292	3.54	39	138	1.67	44.5	114	1.42	16.5	0	1685	4400
15	86	2803	292	3.40	39	138	1.60	54	114	1.33	16	0	1685	4500
16	89.5	3875	400	4.47	39	187	2.1	43	111	1.24	11.5	6.5	2468	4600
17	68	2723	316	4.65	43.5	116	1.7	38	125	1.84	18	0	1618	3900

Some observations:

- ✓ In general their diets were very healthy compared to the general population
- ✓ All footballers eating enough food and having an adequate calorie intake have no problems in meeting their vitamin and mineral intakes and therefore do not need to take vitamin and mineral supplements.
- ✓ Some footballers were not eating enough calories to fuel their training and everyday energy requirements. These were the players who tended to feel tired and were not getting the most of training.
- ✓ Most if not all footballers do not meet their requirements for carbohydrates.
- ✓ When compared to the diets of footballers that only play at club level, senior inter-county players have much more healthy diets. They eat less fatty foods (chips, burgers, crisps, fried food) and drink less alcohol.
- ✓ Attention to diet improves as the season progresses. The nearer to the championship, the more likely players are to follow good eating and drinking habits.
- ✓ Most footballers do meet the recommended intake for protein, however, the timing of protein intakes may need to be looked at especially during the weight training stage.
- ✓ Most footballers need to increase the amount of fluid they take to meet their recommended intakes.

Hydration and fluid intake

The intake of adequate fluid offers benefits to footballers. The effects of dehydration on performance are well known and include reduced concentration, an important factor for free takers, may result in poor tackling and can cause fatigue at various times during matches and training. Players who are dehydrated are also at a bigger risk of injury. For low intensity activities that last up to one hour, water will be sufficient, but for higher intensity activity lasting greater than one hour footballers should consider drinks that have carbohydrate and salt added. As well as providing fuel for the muscle adding carbohydrate in the correct quantities to water will increase the rate of water absorbed through the gut.

Ulster U-16 Development Squad

In August 2003, the Ulster U-16 development squad had hydration testing done as part of an education programme. All players (45 from Ulster Counties) provided a urine sample for testing prior to an education session and the afternoon training session. The urine sample was obtained for two reasons:

1. The players could observe the colour of the urine. This is a quick and effective self-test method. The darker the urine, the more likely a player is to be dehydrated.
2. The urine samples were tested for hydration status. The more concentrated the sample the more dehydrated the player is.

The aim of the education session was to provide each of the players with some information on the importance of adequate fluid intake before, during and after training and matches. It was also emphasised the importance of practicing all new drinking habits in training prior to competition. At a practical level only a few of the players had water bottles with drinks with them for the training session and none of them had thought about drinks for after the session.

Results August 2003:

4 of the 45 (9%) players went out to training fully hydrated

7 of the 45 (15.5%) players had low levels of dehydration

13 of the 45 (29%) players had moderate dehydration

8 of the 45 (18%) players had high levels of dehydration

6 of the 45 (13%) players had very high levels of dehydration

7 of the 45 (15.5%) players had extreme dehydration

If these results had been available prior to training then at least 21 of the players should probably not have trained as they would not be getting as much from the training as they could have and they also were at risk of picking up injuries.

In October 2003 33 of these players returned to Loughry College for another training day. As players arrived they were asked to provide a urine sample and after the morning training session players were asked for a second sample. There was a huge improvement in the results. On this day most of the players had bottles with them for the session and were drinking during the session.

Results October 2003:

11 of the 33 players (33%) were fully hydrated

17 of the 33 players (51.5%) had low levels of dehydration

5 of the 33 players (15.5%) had moderate levels of dehydration.

After the second sample all but 5 players were showing some signs of dehydration but none of them were in the very high dehydration group. By giving some education you can improve results of some players but regular reinforcement of the message is important.

Conclusion:

Adapting eating and drinking habits offers all players an easy way of maximising their performance. Players need to remember its not the expensive supplements that will make a difference but small changes to the food and drinks they take and the timing of eating and drinking in relation to training that is important. The following handout “Fuelling Football” gives some ideas on practical ways on what to do.

Fuelling football...

Start to get into better eating and drinking habits. It may take you a while to make all the changes you need.

- Always have a breakfast
- Aim for three main meals with snacks between
- Drink plenty of water
- Have your own water bottle at training. Avoid sharing this with other players.

Never go to training or matches without eating or drinking. If you feel nervous and food makes you feel sick then drinks are a good alternative.

- Sports drinks
- Milk shakes
- Dilute squash

Always prepare for away matches. Stopping in shops and only eating crisps and sweets will not help you prepare or recover well.

- Bring sandwiches or filled rolls
- suitable drinks and enough for before, during and after the match
- Pots of rice or yoghurt
- Small tins of fruit in natural juice (the ones with the ring pulls are handy)
- Bananas or other fruit (make a fruit salad and put in a lunch box)

Use common sense - do not try anything new without trying it out beforehand

Sample meal plan for training or match day

Meal	Food
Breakfast	Large bowl of cereal with 250mls low fat milk 2 slices of toast with low fat spread 250mls juice and 250mls water mixed together
Snack ideas	2 slices of fruit / malt bread spread with 1 tablespoon of jam ½ pint milk and banana
Lunch	2 chicken / ham and salad sandwiches & 1 pint dilute Squash Or ½ tin of beans on 3 slices of toast Or Pasta salad 1-2 pints of water and piece of fruit
Snack	200g pot of yoghurt or rice
Dinner	½ packet of pasta / 2-3 potatoes or rice, chicken/ meat or fish (4-5ozs) (grilled) Boiled vegetables and gravy
Snack	Toast / cereal 1 pint water

Notes:

Always have a snack or drink 1-2 hours prior to training

Always have a snack or meal and drink as soon as training is finished within 30mins -2 hours. This gets fuel back into the muscles as soon as possible.

Some players complain of a stitch after drinking. If you practice drinking during training you will train your body to get used to it.