

SN FORUM

**Sports
Nutrition
Forum**

A Newsletter for Sports and Fitness Professionals

EXCITING EVENTS MARK NATIONAL DAIRY WEEK



Pictured are Dr Marta Van Loan, Research Physiologist, US Department of Agriculture's Western Human Nutrition Research Centre, Davis, California; Cathy Breen, Senior Dietitian in diabetes and obesity management at St Columcille's Hospital, Loughlinstown; Fiona Ward, Acting Dietitian Manager at Temple Street; Catherine Norton, Dietitian and Accredited Sports Nutritionist, University of Limerick; Philomena Flood, Vice President INDI; and Dr Catherine Logan, Nutrition Manager, The National Dairy Council.

The National Dairy Council (NDC) celebrated National Dairy Week (April 29 - May 5, 2013) to remind us of the excellence of Ireland's pasture-based dairy farming and also to highlight the quality, versatility and nutritious benefits of dairy as part of a balanced diet and healthy lifestyle.

Many diverse events took place during the week, such as a Symposium for dietitians, the National Finals of the NDC *Milk It* Advertising Awards and the NDC Annual Conference.

Dietitians Gather for Informative Symposium

The Irish Nutrition & Dietetic Institute (INDI), in association with the NDC, held a Symposium on the topic of 'Body Weight and Body Composition Throughout the

Life Cycle', which took place in Dublin during National Dairy Week. The plenary session was delivered by Dr Marta Van Loan, Research Physiologist with the US Department of Agriculture's Western Human Nutrition Research Centre, California. The Symposium also included three additional Break-Out Sessions delivered by specialist Irish dietitians: Fiona Ward, Acting Dietitian Manager at Temple Street; Cathy Breen, Senior Dietitian in diabetes and obesity management at St Columcille's Hospital; and Catherine Norton, Dietitian, University of Limerick. These Break-Out Sessions reflected on specific life stages: Childhood, Adulthood and the Older Person. For more information on this Symposium and upcoming events visit www.ndc.ie/health/seminars

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www.ndc.ie



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Editorial

In this issue of **SN Forum** we get the low-down on Olympic boxer, Darren O'Neill, in our 'Sports Star Spotlight'. We feature regular contributors Ruth Wood-Martin, who discusses nutrition during the off-season, and Dr Tom Hill, who shares his top smoothie recipes with us. We also highlight research that investigates diet and bone health in young female runners and the role of milk in team sport performance.

Visit www.ndc.ie to keep up-to-date with our latest news and events; you can check us out on Facebook at www.facebook.com/ObeyYourBodyIRL and you can follow NDC updates on [Twitter@NDC_ie](https://twitter.com/NDC_ie)

We hope you enjoy reading this issue and we would be delighted to hear any comments or suggestions; please contact us at nutrition@ndc.ie

Caroline O'Donovan

Caroline O'Donovan
Nutritionist, The National Dairy Council

Teenagers 'Milk It' at Advertising Awards

Twenty secondary school teams succeeded in reaching the 2013 National Finals of the NDC *Milk It* Advertising Awards, which took place at the Mansion House, Dublin – also held during National Dairy Week. This was the result of months of preparation as students from around Ireland were challenged to set up their own 'advertising agency' and to research, design and strategically plan an advertising campaign aimed at encouraging their teenage peers to meet their recommended daily intake from the 'milk, yogurt and cheese' food group. The 20 teams, out of an initial 319 teams that entered the competition, exhibited their advertising campaign projects and pitched them to a panel of specialist judges at the National Finals.

The overall winners, 'Milkozade', a team of Transition Year students from Middleton College, Co. Cork took home the top prize. They highlighted research pointing to the benefits of milk in sports nutrition and used some very effective techniques, such as a poster campaign, social media and their very own 'milkozade' app to reach their target audience. The team also connected with their IT teachers to design a video game, which was an innovative piece of viral marketing. For more information about the winners, prizes and even how to enter next year's competition, visit www.milkitawards.ie

Primary School Pupils 'Get Involved' to Promote Healthy Eating

With the *Milk It* Awards in its third year and proving to be very popular and effective among students, the NDC created a new educational initiative, Moo Crew: The Primary Dairy Movement, to interact with a younger audience. This programme,

launched in early 2013, aims to educate third to sixth class primary school pupils about the importance of dairy as part of a balanced diet and healthy lifestyle in a fun, engaging way. The NDC teamed up with teachers to create this programme, combining nutritional knowledge with educational expertise. This initiative consists of four interactive lesson plans supported with activities and web resources made available for all schools on www.moocrew.ie

Pupils were encouraged to share what they had learned from these lessons with the rest of their school and highlight the importance of dairy in a creative way. They had the option of showcasing how they achieved this by submitting an entry to our competition with the chance of winning some exciting prizes.

Darren O'Neill, captain of the Irish boxing team at the London 2012 Olympic Games and a qualified primary school teacher, is an ambassador for Moo Crew; he launched the campaign to teachers earlier this year at the national conference of the IPPN (Irish Primary Principals' Network). "I hope we can help to improve attitudes towards eating a balanced diet and living a healthy lifestyle that includes physical activity," he said. Turn to page 4 to hear more from Darren.

Positive Future Ahead for Dairy Industry

The Minister for Agriculture, Food and the Marine, Simon Coveney TD, addressed the 2013 NDC annual conference at The Mansion House, Dublin where he reaffirmed the Government's commitment to the expansion of the Irish dairy sector. The benefits to the Irish economy as a result of expansion of this industry were discussed by Ciaran Fitzgerald, Economist. He stated: "Food Harvest 2020 predicts a 50% increase in milk production by 2020, which is estimated to be worth €1.3 billion per year



Pictured at the Moo Crew launch during the IPPN Conference were (L-R) Emma Williams (aged 10 from Killiney), Darren O'Neill and Max Guilfoyle (aged 10 from Ballybrack)

to the Irish economy." He also spoke about the advantage of creating employment in the agriculture sector saying: "One job in direct manufacturing in the agri-food sector accounts for another four indirect jobs in our economy."

Zoë Kavanagh, Chief Executive of the National Dairy Council, also highlighted the exciting future ahead for the Irish dairy sector; she said: "The Irish dairy sector is preparing for a new era with the end of milk quotas in 2015 and potential expansion under Harvest 2020. There is evidence already of high levels of investment planned by the dairy sector at both processor and farm level." To read more about this conference and to keep up-to-date with other NDC events, visit

www.ndc.ie/news



Pictured (L-R), from the winning 'Milkozade' team at the NDC 'Milk It' Awards are: Margaux De Wazieres, Eoghan Daly, Danny Murphy, Kieran Simpson, Josh Beamish, and Ruth Provan-Bessel.



Zoë Kavanagh, Chief Executive, The National Dairy Council, pictured with the Minister for Agriculture, Food and the Marine, Simon Coveney TD, at the NDC Annual Conference.

Performance and Nutrition:

Ruth Wood-Martin MSc RD SEN is a registered dietitian and sport and exercise nutritionist, and currently works as the Performance Nutritionist with the Irish Rugby Football Union.



Take a break – nutrition for your down-time

Whatever your sport, time out from the pressure of training and competition is built-in to allow both physical and mental recovery from the stress of the season.

It is really important that you take advantage of this time, to give your body a chance to be recharged for the beginning of next season. Nutrition plays a part here too, and this information aims to outline how you can get the most out of what you eat in order to stay in good shape.

A break is a must

Taking a few weeks off to let the body and mind rest and rejuvenate should be your first priority. The best nutritional advice during this time is to enjoy time to eat well, being mindful not to use it as a chance to 'pig out'. Your energy expenditure (that is, the amount of calories you use up) will probably be less, now that your intense training and competition is over, so you will need less energy (calories) going in. The best way to do this is to reduce the amount of snacking and trim down the size of your main meals. Remember that many takeaway foods are high in fat and calories so control your intake.

Next up: Tackle an off-season goal

A couple of weeks of rest and relaxation are just what the doctor ordered. It is likely, however, that after this you will get back into some form of training to prepare you for the start of your next season. You may have set some goals that might include increasing muscle mass or reducing body fat, maintaining overall aerobic fitness or improving speed.

Goal 1: Increasing muscle mass

Everyone wants results quickly. What you need to remember is that muscle development takes time and a big increase in weight on the scales in the off-season is more likely to be fat weight-gain when

training volumes are lower. To gain muscle, you do need more calories to allow them to grow and this means you need to be smart about what you eat to prevent unnecessary fat gain while still providing enough calories for muscle growth. Be realistic – weight gain of a kilo or two is the most you should be aiming for over the four- to six-week period.

TIPS FOR GAINING BODY WEIGHT

Eat more often if you can't eat a lot. Fit snacks in between breakfast, lunch, dinner and at bed time

Increase the nutrition value of foods by:

- Adding peanut butter, honey or jam to breads or toast
- Using yogurt and honey in smoothies
- Adding skimmed milk powder to milk drinks

Make sure you are well fuelled up before doing any exercise – carbohydrates are the key foods you need to get the best quality out of your session

Remember to refuel after exercise – keep some tasty snacks in your kit bag

Drink plenty of fluids – include milk, juices, milkshakes and smoothies, as well as water

Goal 2: Trimming body fat

Time off is a good opportunity to trim body fat and if this is a priority for you, then it might mean that you will lose some overall body weight. This is ok, as losing fat while maintaining muscle mass will mean you should maintain your strength and power. Again, you need to be realistic about how much weight you should aim to lose. If you lose too much, then the chances are that you will have lost muscle mass, which

defeats the purpose. You should lose no more than ½ a kilo of weight a week.

TIPS FOR LOSING BODY FAT

Reduce the portion of meal sizes, as well as snacks. Make sure you include fruit on your snack list

Only eat until you are full – try not to overeat

Keep fat intake low; be sparing with butter, margarine, oil in cooking, fat on meat, and fried foods

Be careful of hidden fats in processed foods like biscuits, cakes, doughnuts, pastries, processed meats, salami, and takeaways

Increase the proportion of vegetables or salad of the meal

Don't cut out particular foods or food groups – you need regular intake of carbohydrate and protein foods

Drink plenty of water during the day – keep sweet drinks to a minimum

Sports supplements

Time off is also the time to give sports supplements a rest. You will get all the nutrients (that is, carbohydrate, protein, fat, vitamins and minerals) from eating a wide variety of different foods.

So, enjoy your time out and eat and drink well to be super-charged and ready for the season ahead!

Sports Star Spotlight

Darren O'Neill



Profile

Name: Darren O'Neill

Sport: Boxing

Date of Birth: 13/09/1985

Birth Place: Paulstown, Co. Kilkenny

Sporting Influences: My dad, Ollie O'Neill, is my number one sporting influence. Michael Carruth; and also Kenneth Egan – as an athlete, opponent and friend in the sport. On a worldwide level, Muhammad Ali and Emmanuel 'Manny' Pacquiao.

Greatest Sporting Achievement: Winning the European Silver Medal in 2010 and competing in the London 2012 Olympic Games.

“

How Did You Become Involved in Boxing?

My dad is the club coach in Paulstown and I got involved through his influence.

What is The Best Thing About Boxing?

The feeling of winning is always great and I think the confidence you attain through your training enables you to feel secure, both physically and personally.

Training Schedule:

When I'm preparing for a competition I have 10 sessions per week. I train twice daily from Tuesday to Friday, once on Monday and Sunday, with a rest on Saturday.

Typical Diet:

For breakfast, I would usually have porridge with milk and honey. At lunchtime, I have a salad with poached or scrambled eggs on toast. In the evening, I usually have meat or fish with vegetables and potatoes, or maybe a meat stir fry. For snacks, I eat apple slices and cheese cubes, peanut

butter on crackers, mixed nuts, yogurt, or rice cakes. For a treat I sometimes have a hot-chocolate drink.

Favourite Meal:

I am not a fussy eater and enjoy most foods, but some of my favourite meals include turkey and ham; bacon, cabbage and potatoes; spaghetti Bolognese; or a homemade curry. My favourite food, (aside from my guilty pleasure of chocolate!) has to be eggs – scrambled, poached, hard-boiled or in an omelette – are all great!

Do You Drink Milk?

Yes, I drink quite a lot of milk and have done so from an early age. I take it with cereal, tea, coffee or in hot-chocolate drinks, as well as drinking it by itself with breakfast, dinner or before bed. Also, before or after training, I have strawberry-flavoured milk.

The Importance of Nutrition in Sport:

I think nutrition is an integral part of sport –

just like training and equipment. Our bodies are our vehicles for operating, acting and performing; therefore, it is important that they are fuelled well. As an athlete in a weight-restricted sport, I know better than most the importance of a healthy, balanced diet to maintain energy, strength, focus and optimal performance.

Thoughts Before a Match:

Throughout the day I try to stay relaxed and not focus on the match, but closer to the time I will concentrate on my game plan and focus on what I do best.

Advice for Aspiring Athletes:

I know this is a common answer to this question as everyone typically says: 'work hard and listen to your coaches'; however, I have found this to be the case also. My specific advice would be to find a coach you have confidence in, listen intently and never give up, no matter how many times you have to try again.

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Smoothies: the Scrumptious Snack in Seconds!

In this issue of *SN Forum*, I provide a number of fruit and dairy-based smoothie recipes that incorporate milk and fresh yogurt, which can be easily included into an athlete's diet. We are all aware of the importance of fruit and vegetables in our diets as these foods provide essential vitamins, minerals and antioxidants, which perform a wider range of essential functions within the body. The Department of Health's Food Pyramid (healthy eating guidelines for adults and children over five years of age) recommends at least five servings of fruit and vegetables per day. Three servings from the 'milk, yogurt and cheese' food group are advised per day, with five servings recommended daily between the ages of nine to 18 years as part of a balanced diet. Including milk and/or yogurt in smoothies is a great way to help achieve these recommendations.



Dr Tom Hill, originally from Cork, is a registered nutritionist and Senior Lecturer in Human Nutrition at the University of Newcastle Upon-Tyne, UK. He has worked on diet and nutrition issues with players, athletes and teams, both professional and amateur, across a range of sports including rugby, soccer, GAA, rowing and athletics. He has also published numerous research articles and book chapters on human nutrition and one of his main research interests is the role of nutrition in musculoskeletal health. He has also played rugby for University College Cork and is currently involved in coaching youth rugby. (Email: tom.hill@newcastle.ac.uk)

Examples of a serving from this food group include 200ml of milk, 125ml of yogurt or 25g of hard cheese.

So, why not avail of locally produced fruit and vegetables, which can be incorporated

into simple smoothie recipes to provide a tasty and refreshing snack at any point of the day? Try fresh and frozen fruit, as well as mixing up the variety of fruit you choose. A good tip is to ensure that you have access to a decent high-powered blender! Enjoy!

Fruit and Dairy-based Smoothies (All based on approximately 300kcal)

Peanut and Banana Smoothie (Great when hunger calls, or try as a quick breakfast!)

(1 Serving)

200ml skimmed milk
1 tbsp. smooth peanut butter
1 medium banana
125ml carton low-fat natural yogurt

In a blender, combine all ingredients and mix until smooth. Use six ice cubes for a thicker consistency. Drink immediately.

Typical value	Per 100ml	Per 1 Serving (475ml)
Energy	280KJ 67Kcal	1339KJ 320Kcal
Protein	2.5g	12g
Carbohydrate	12.6g	60g
Fat	0.6g	3g
Vitamin C	5.3mg (7% RDA)	25mg (31% RDA)
Vitamin B12	0.3µg (12% RDA)	1.4µg (56% RDA)
Calcium	84mg (11% RDA)	400mg (50% RDA)

Irish Berry Blast

(Great for a fruit boost in between busy training days!)

(1 Serving)

200ml skimmed milk
1 scoop low-fat vanilla ice-cream
125ml carton low-fat strawberry yogurt
125g mixed raspberries, blackberries, strawberries (source locally, if possible!)

Put all the ingredients into a blender. Blend until frothy. Drink immediately.

Typical value	Per 100ml	Per 1 Serving (450ml)
Energy	280KJ 67Kcal	1255KJ 300Kcal
Protein	3.6g	16g
Carbohydrate	9.3g	42g
Fat	2g	9g
Vitamin C	5.6mg (7% RDA)	25mg (31% RDA)
Vitamin B12	0.3µg (12% RDA)	1.4µg (56% RDA)
Calcium	78mg (10% RDA)	350mg (44% RDA)

RDA Source: COMMISSION DIRECTIVE 2008/100/EC of October 28, 2008 amending Council Directive 90/496/EEC on nutrition labelling for foodstuffs as regards recommended daily allowances, energy conversion factors and definitions.



Sport & Dairy

What the science says

Diet and bone health in young female runners

A stress fracture is a break in a bone caused by repeated stress, which may occur during participation in sports or strenuous exercise. Such an injury will hinder training and may affect long-term performance; therefore, ensuring good bone health to help prevent such fractures is a priority for many athletes/sports enthusiasts.

A study involving 125 female competitive distance runners aged between 18-26 years was carried out to investigate the nutrients, foods and dietary patterns associated with the risk of stress fractures, and changes in bone density.

Their diet was assessed using a food frequency questionnaire. Body Mass Index (BMI) was calculated from the participant's height and weight and a dual energy x-ray absorptiometry (DEXA) scan was used to determine body composition, bone mineral content (BMC) and bone mineral density (BMD); this was done at the beginning of the trial and on follow-up after one and two years. During the two-year period of the study, participants were asked to record and immediately report the occurrence of a stress fracture, which was then confirmed by a bone scan.

Seventeen of the 125 participants experienced at least one stress fracture during the study period. Those who consumed higher intakes of skim milk, total milk and dairy products per day had significant gains in overall BMC and gained BMD, specifically in their hips, during the two-year follow-up. The study also found that each additional cup of skim milk

consumed per day was associated with a 62% reduced-fracture risk, and each additional serving of dairy reduced fracture risk by 40%. In addition, other findings from the study highlighted that a dietary pattern of high dairy and low-fat intake significantly reduced the risk of stress fracture and was associated with greater annual increases in hip bone mineral density. Protein intake, especially from animal sources, was related to an increase in total body bone mass; almost half of the animal protein in the diet came from dairy consumption.

Dairy product intake, low-fat milk in particular, and the nutrients in milk such as calcium and protein, were related to greater gains in BMD, BMC, and a lower stress fracture rate.

The researchers conclude that a healthy, balanced diet, which includes low-fat milk, calcium, vitamin D, and fruits and vegetables, is advised for bone health in young female runners.

Nieves et al. Nutritional factors that influence change in bone density and stress fracture risk among young female cross-country runners. *Physical Medicine and Rehabilitation*. 2010; 2:740-750

Milk and team sport performance

In previous issues of *SN Forum* we have reviewed a number of studies by Cockburn *et al.* investigating the beneficial effect of milk following exercise-induced muscle damage. In this recent study, the role of milk in sports nutrition is further investigated with a focus on team sport performance following milk ingestion.

Fourteen semi-professional male soccer players aged 20-28 years took part in this study and were asked to maintain their usual diet throughout. Having completed an overnight fast, participants reported to the laboratory for testing in a well-rested state; they were assigned to one of two groups: 500ml of semi-skimmed milk or 500ml of water.

Prior to testing, participants attended a familiarisation session to ensure they knew how to complete the exercises involved in the performance trial, such as a 15-metre sprint, an agility time test and reactive strength tests. During this initial performance test, active muscle soreness was recorded. A week after this, participants reported to the laboratory again for four days. On the first day, participants completed muscle damaging exercise after which they immediately consumed their allocated drink and rated muscle soreness. Blood samples were also recorded during this time. At 24, 48 and 72 hours following the completion of muscle damaging exercise, they returned to the lab to complete the same performance trial as per the familiarisation session with blood samples and muscle soreness recorded at each testing. At 48 hours, participants also performed the Loughborough Intermittent Shuttle Test (LIST), designed to replicate the physiological demands of field-based team sports, which measures the mean

time taken to sprint 15 metres over a 90 minute period.

A benefit of milk consumption was observed; with the average increase in time to complete certain tests following muscle damaging exercise less for the group that consumed milk than the group that consumed water. This benefit was shown in the time taken to cover 10 and 15 metres during the sprint and to complete the agility trial and the sprints during the LIST. No difference was observed between the two groups in relation to other measures of performance markers such as muscle soreness, reactive strength index, or heart rate.

Consuming 500ml of semi-skimmed milk immediately following muscle damaging exercise showed a benefit in performing one-off and repeated sprints, as well as the agility time trial.

This study, therefore, points to a role for milk in limiting decreases in performance for athletes suffering from exercise-induced muscle damage, which may be a particular benefit for athletes participating in a number of matches or training sessions in a given week.

Cockburn *et al.* Effect of milk on team sport performance following exercise-induced muscle damage. *Med Sci Sports Exer.* 2013; DOI: 10.1249/MSS.0b013e31828b7dd

Resources and events

Check out our two 'Milk It For All It's Worth' booklets – one specifically designed for teenagers, 'Think it, Drink it, Milk it!'; and another for young female adults, 'Get on board with nutrition' – free of charge at www.ndc.ie/publications

The teenage booklet focuses on bone health, dairy nutrition and sports nutrition; while the adult female booklet focuses on body weight management, bone health and includes tasty dairy recipes.

For valuable tips on a healthy, balanced diet and lifestyle, delicious recipes, sports star interviews and much more, check out our magazine 'The Good Life' by logging on to www.ndc.ie/publications



Visit the Obey Your Body Facebook page www.facebook.com/obeyyourbody for access to exclusive content, facts about nutrition and tasty recipes.



For updates on the NDC, follow us on: [Twitter @NDC_ie](https://twitter.com/NDC_ie)

"I am delighted to team up with the National Dairy Council as an ambassador for Moo Crew: the Primary Dairy Moovement 2013, a programme to increase awareness of the importance of the 'milk, yogurt and cheese' food group amongst primary school children." - Darren O'Neill



MOO CREW THE PRIMARY DAIRY MOOVENT

PROFILE Darren O'Neill



Full Name: Darren O'Neill

Birth Place: Paulstown, Co. Kilkenny.

Occupation: Primary school teacher and middleweight Irish boxer.

Sporting Achievements: Captain of the Irish boxing team at the 2012 Olympic Games. European silver medallist and holder of four national middleweight titles.

"A healthy, balanced diet is essential for all ages and lifestyles"

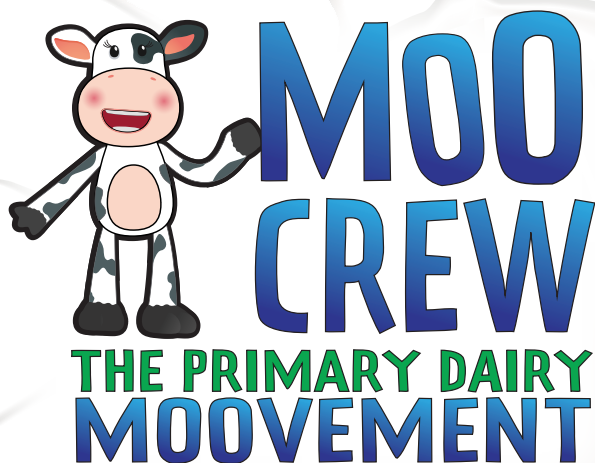
As an athlete, eating the right foods is so important for my overall health, as well as my performance. Luckily, I developed a positive attitude to healthy eating as a child, which cemented good habits during my teenage years and on into my adult life.

"Nutritious & delicious"

Milk, yogurt and cheese feature regularly in my diet. Not only are they important sources of many nutrients, but they are tasty and versatile too.

"Keeping active is great for body and mind"

Activities such as skipping, running and most team sports are important for our bone health. For me, becoming involved in sport at a young age was a great way to make new friends, be part of a team and build my confidence.



A team of fourteen pupils from the **4th class of St Joseph's B.N.S. in Rathkeale, Co. Limerick** were the national winners of the

inaugural Moo Crew: The Primary Dairy Moovement competition. Pictured at Causey Farm, where the winners were announced at a prize giving ceremony, were pupils from the winning school with Olympic boxer and qualified primary school teacher, Darren O'Neill. Also in the picture are: Helen Shanahan (parent); Mary Wallace (teacher); Caroline O'Donovan (NDC) and Stuart Scott (Glanbia).



www.moocrew.ie