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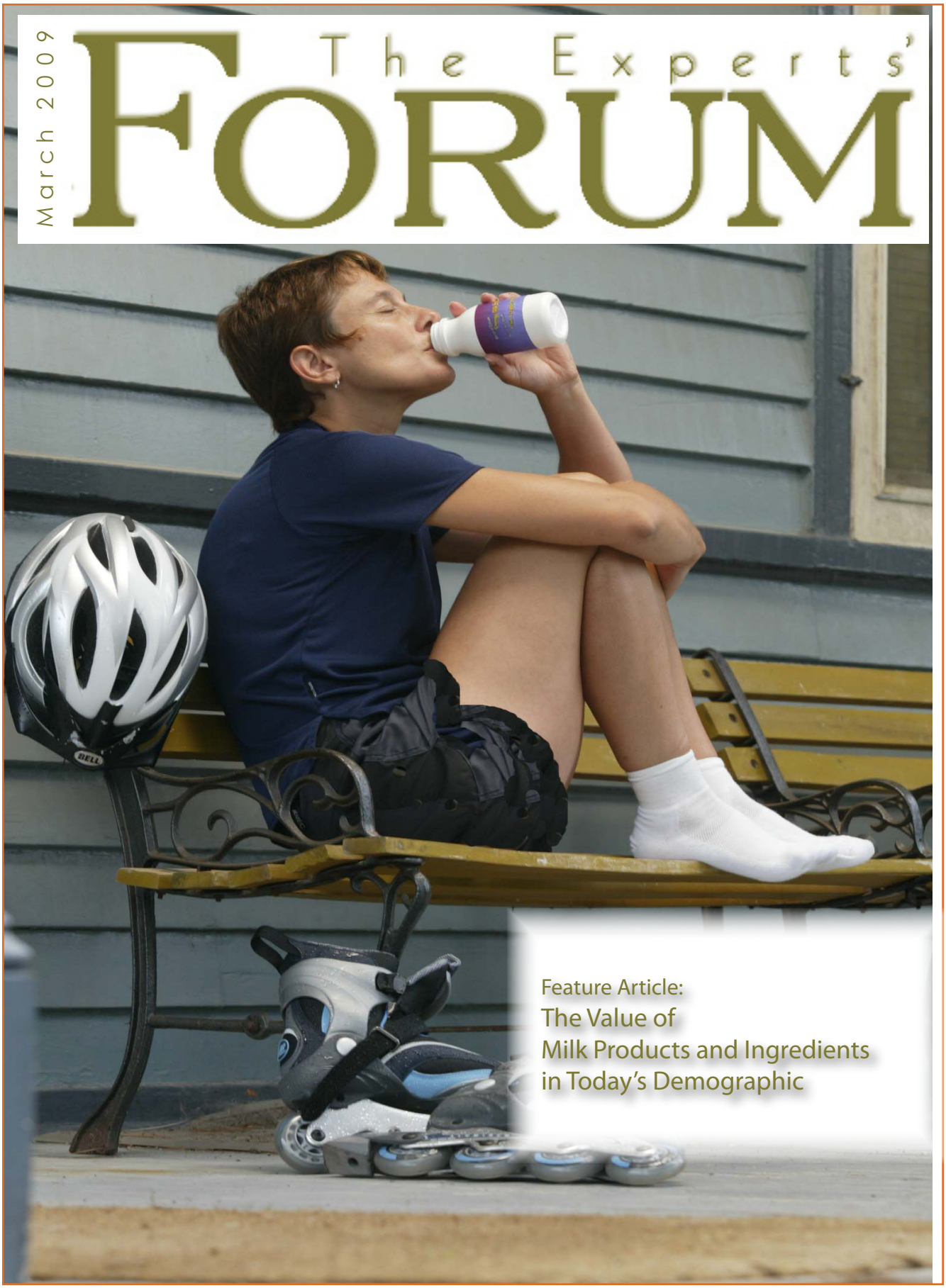
The Experts' FORUM



Feature Article:
The Value of
Milk Products and Ingredients
in Today's Demographic

www.milkingredients.ca

It turns out it's not just athletes who are concerned about nutrition when it comes to being active. More Canadians are taking time out to think about food products, particularly the ingredients that make up these products, and how they all relate to managing their weight as well as their health. They are interested in knowing more about how they can combine nutrition and an active lifestyle in order to achieve good results on both those fronts.

The Canadian population, in general, is becoming more active. According to Statistics Canada, "more Canadians made active leisure choices in their daily lives over the period of 1992 to 2005. In 2005, 5.6 million of 23 million Canadians 20 years of age and over participated in active leisure on a given day". Who are these active Canadians? According to Statistics Canada, they are, in large part, adults aged 60 or older, individuals with higer education and those with a higher personal income.[1] From sports recovery beverages, to energy drinks, to meal replacements, these active Canadians are looking for better ways to fulfill their nutritional needs while maintaining their health.

Active lifestyles and nutrition

"It is well known that nutrition practices affect capacity for physical activity. The consensus among many experts is that the nutritional needs of athletes are not significantly different from those of the general population; *Canada's Food Guide* is the basis for success for both physically active individuals and competitive athletes. Very active people who are at a healthy weight may need to eat extra servings from the four food groups. Generally, when nutrient intake is adequate, supplements are not known to improve an individual's capacity for physical activity.

Physical activity can increase hydration requirements to compensate for sweating. Fluid should be consumed before, during and [after any type of exercise] to prevent dehydration and its negative impact on the capacity for physical activity.

Knowledge of how nutrition and [exercise] relate is of value to competitive athletes as well as to the general population, which is encouraged to engage in regular physical activity to promote physical and mental health. However, most studies of nutrition and activity have focused on the nutrient requirements of competitive athletes."[2]

What a body needs

The human body needs several things to function properly when under stress from physical activity.

- **Energy**: The dietary intake of calories from protein, carbohydrates, and fat provides the energy that fuels the brain and all bodily functions, including physical activity.

- **Carbohydrates**: Carbohydrates (sugars and starches) are metabolized into glucose by the body to maintain blood sugar and stored8i glucose levels; they are the preferred source of energy for most of the body's activities. Carbohydrates are stored as glycogen in the muscles and the liver as an energy or fuel reserve.[13]

- **Protein**: Protein is the main functional and structural building block of every cell in the body. It is continually being broken down and re-synthesized, especially in

response to daily physical activity; this is referred to as body protein turnover.

- **Fat**: Fats are essential for the absorption of fat-soluble vitamins and minerals, cellular signalling, gene expression, and lipid and carbohydrate metabolism.[13] Fats are also an important source of fuel for the body – muscle uses both fatty acids and glucose for energy during physical activity.[3, 4, 5]

- **Fluid**: Water is the largest component of the body (60% of body weight, on average) and is necessary for the maintenance of cellular homeostasis, vascular volume, transportation of substances within the body, nutrient supply and waste removal.[3] Fluids should be consumed before, during and after physical activity to replace fluid lost through sweating and thus support adequate hydration.

Recover with Milk

Whether you are a weekend warrior training for the next marathon, a mother of two doing aerobics three times a week or a senior walking daily to maintain your health, what you eat and drink following that workout can have a great impact on the effectiveness of the exercise.

"Scientific evidence supporting milk's value as a postexercise recovery drink is growing. A very recent study found that drinking skim milk after cycling in a warm environment had a greater rehydrating effect during the recovery period than drinking a popular sports drink.

Furthermore, exercise capacity was not different with skimmed milk than with the sports drink in a follow-up session of cycling.[6] This is in line with other recent findings, including a similarly designed study that found low-fat milk to be a better post-exercise rehydration drink than a commercially available sports drink.[7]

Effects of Drinking Milk Following Exercise [9, 13, 14, 15]

- Milk following resistance exercise promotes greater gains in muscle and losses in body fat than soy or sport drinks.
- Milk is an effective post-exercise rehydration aid.
- Consumption of milk after exercise promotes greater gains in muscle protein which is important in repairing damage caused by the exercise itself.

Source: *Effects of Drinking Milk Following Exercise*, Stuart M. Phillips, Ph.D., Associate Professor, Department of Kinesiology – Exercise Metabolism Research Group; Associate Professor, Faculty of Health Sciences, McMaster University

Recent findings also suggest that chocolate milk is an effective recovery aid when consumed between two exhausting bouts of exercise.[8] Similarly, drinking skim milk after resistance exercise was noted to have a greater effect on muscle growth than either a sports drink or a soy beverage.[9] It is suggested that the natural nutrient profile of milk and chocolate milk, which includes water, carbohydrate, protein and electrolytes, is responsible for the positive effects on exercise recovery.[6, 7, 8, 9] Fast and effective recovery after exercise is especially important for those participating in multiple sessions of physical activity per day and for those who exercise daily.[10" 2]

Benefits of dairy products

Milk products are rich in nutrients and can easily be added to a meal or a nutritious snack post-exercise. Milk products provide high quality protein that is important for growth, and maintaining a healthy muscle mass, as well as minerals such as calcium, potassium, phosphorus, magnesium and zinc, vitamins A, D and many of the B series.[11]

Opportunities for dairy drinks targeted to active people

Business Insights released findings in 2008 revealing that "both the energy and sports drink segments have shown strong growth in recent years, driven by demand for natural ingredients that also provide 'sustainable, longer lasting energy'".[12] In addition, the *Business Insights* report "predicts a five per cent growth in the sports and energy drink sector up to 2011 as a result of changing demand amongst consumers."

Whether you are sports drink manufacturer or simply want a new market for your current dairy beverages or products, opportunities exist. Considering the socio-demographic profile of the active Canadian population and the aging population, there is great potential to develop more dairy drinks and products positioned to reach these segments. Promoting the benefits of milk following exercise and adaptation of products for active lifestyles are key to reaching these consumers. Individual formats, tetra pack, distribution networks in gyms and pharmacies are only small steps in growing the demand for these products.

There are also opportunities for developing sport-recovery drinks fortified with Milk Protein Concentrate (MPC) or Milk Protein Isolate (MPI) for athletes and individuals practising more intensive physical activities.

The Canadian Dairy Commission (CDC) is committed to helping companies develop new protein-fortified products using Canadian dairy ingredients. Our Innovation Support Funds are designed to help companies develop new products and innovative products that will respond to the changing nutritional wants and needs of an active Canadian population.

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