Masters Nutrition

Jennifer Hutchinson provides some helpful nutrition information for Masters Triathletes

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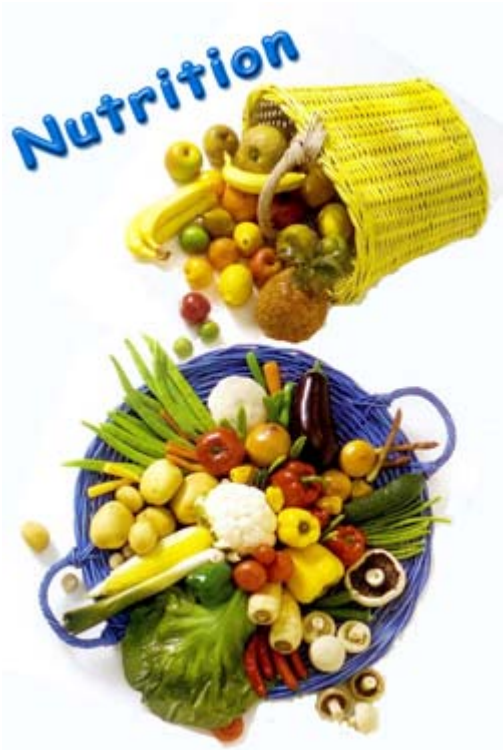

I am excited about heading to the Big Island for my second dance with island gods at the Ford Ironman World Championship next week. This time going back will be a little different since I was recently forced into the Masters ranks. I hear all the time age is just a number … a state of mind. Yeah, right. I liked having 30-something inked on my calf. Having a big 40 there now, well I don't want it!

I don't want to get older and slow down any more. Yes I know we cannot stop the hands of time so instead of whining anymore about getting old, I thought I would dedicate this month's column to my fellow Master athletes (go get 'em Natasha!) and provide a brief review on the aging process and nutritional issues we need to keep in mind as we age gracefully.

Theories on aging

Aging is a progressive decline in our body's natural systems. The rate at which one person "breaks down" compared to the next depends on: genetics, life style choices with the main emphasis on physical activity and nutritional habits.

As we age, our body's ability to repair or regenerate cells that are damaged (as a result of training, injury or trauma) or naturally die off slows down. Cellular regeneration and repair changes and the ability to make an exact duplicate of the affected cell(s) is compromised. Combined with the "wear and tear" from daily living and the cumulative effects of training-related

free radical accumulation, you set the stage for a decline in efficiency of internal organs (such as heart, lungs, kidneys) and body systems (blood sugar control, blood pressure, kidney filtration, etc).

Impact of aging on physical performance
It is very difficult to pinpoint the impact of natural aging on performance. Lifestyle choices, as mentioned, can slow the natural decline. The reality is that peak physiological function occurs in our early 30s. After this time it is said we can expect a progressive decline of .75 to 1% per year. This digression is due to decreases in maximal oxygen consumption (VO2max), maximal cardiac output (max heart rate), muscle strength/power and a decrease in flexibility due to less elastic ligaments and tendons. As an athlete I find this news a bit depressing.

As it relates to performance, the fact of the matter is we all have a “shelf life’ and we are not totally helpless to the natural aging process. Research is pretty clear that regular physical activity (endurance training PLUS strength training) combined with healthy nutritional practices allow our bodies to stay stronger longer. Since, as Ironman athletes, we have the physical training box checked, we need to sharpen our focus on nutrition as it relates to aging body.

Nutrition, what do Masters need to know?
There are natural body changes that can impact a person’s nutritional status directly or indirectly regardless of their physical activity level. The changes that are of greatest interest to Master athletes are the possible changes in metabolism or energy needs, changes in how the body utilizes macronutrients and absorbs/utilizes certain vitamins and minerals as well as impact of aging on hydration status.

Calorie Needs
The good news is as long as we Masters athletes maintain our lean body mass and a similar level of training, our calorie needs do not change very much. This means we can eat as much as we always have. The problem arises when there is a reduction in training due to an injury, chronic aches and pains from the years of training or maybe due to diagnosed health condition that forces an athlete to have to cut back. This reduction in training stimulus may contribute to a reduction in our lean body mass (the basis for our metabolic engine) and subsequently a reduction in daily caloric need. The simple message is: if you do not want pack on the pounds you have to reduce overall calorie intake to better match calorie output if indeed your training is slowing down. As an FYI, a modest decrease in expenditure of 150 calories a day (with no change in calorie intake) can produce a very progressive weight gain of 10+ pounds per year…now that’s middle age spread!

Nutritional requirements for macronutrients
The need for carbohydrates, protein and fats are in line with previously reviewed requirements for Ironman athletes as a group. (Check the Ironman.com nutrition archives for specific guidelines). As a general rule, Master athletes need to get the most nutritional bang for the buck and this is done by focusing on the nutrient density of your food choices. Nutrient dense carbohydrate foods are whole grains (the more exotic the better), legumes, fruits and vegetables. Colorful fruits and vegetables should be a daily part of the Masters athlete’s diet as the antioxidants they deliver are essential to minimizing the stresses of training. Protein sources should be low in saturated fat and

can be both plant and animal based. Master athletes need to avoid diets with greater than 20% calories from protein as excess protein may stress the kidneys and interfere with calcium absorption. Fat sources should be limited to mono and polyunsaturated fats with an emphasis on balancing omega fatty acids. Saturated fat should be minimized and trans fatty acids avoid at all costs.

Some masters athletes might need to alter their macronutrient intake as a result of diseases or health conditions that are more likely to surface with age. In addition, any medications that may be prescribed to treat such conditions could have an impact on how the body processes nutrients. Any Master athlete who is being treated medically for any nutrition related condition (diabetes, cardiovascular disease, blood pressure, etc) should seriously consider working with a Registered (Sports) Dietitian.

Nutritional requirements for vitamins and minerals
There is very limited nutritional information on nutrient guidelines for Master athletes. The top three nutrients I see as a possible concern are:

Calcium is the mineral that maintains the strong framework needed to keep our Ironman bodies going. A good portion of our bone is made and solidified by age 25 and will progressively decline each year as we age. Combine this with insufficient dietary calcium and over time the structure can become porous and weak, increasing chances for fractures and delayed healing should a break occur. To meet the requirements of 1000-1200 mg Calcium a day, Master athletes need to consume 3 to 4 servings of calcium rich foods daily.

Vitamin D is a fat-soluble vitamin that is needed in conjunction with calcium to form strong bones. Vitamin D can be made in the body as a result of direct sunlight exposure to the skin. With the responsible use of sunscreen to help protect against skin cancer and the accelerated aging of the skin, this protection also interferes with the body's already compromised Vitamin D production. To combat the decline in manufacturing of Vitamin D, athletes need to consume Vitamin D fortified foods and beverages in their daily diets. Cow's milk and fortified soymilk are easy options and can help a Master athlete meet the requirement of 10-15 micrograms / day.

Iron is a mineral that has the very important function of helping carry oxygen to our working muscles. Male Master athletes need for iron remains unchanged. Female Master athletes need to be more careful because as you age the body starts to shut down reproductive systems (premenopause) and the need for iron decreases. When the reproductive systems stop all together (this is menopause) daily requirement for iron is the same as for men: 8 mg per day. Iron needs can be meet through food choices and use of iron containing supplements should one be used under the direction of a physician.

For more on Iron nutrition check out my Fe+Man article in the Ironman.com nutrition archives.

Fluid requirements
Adequate hydration status is important for an athlete at any age. However, as stated, the natural age related decline in some body functions make hydration a major concern for master athletes. The body needs water to help with metabolic processes, lubricating joints and maintain an effective cooling system. With age comes a slow decline in total body water, which may impair the body cooling mechanism. On top of that is a decline in our natural thirst mechanism (our involuntary cue to find something to drink) and decrease our kidney's ability to filter and excrete waste products. Because there really is not much research on Master atheletes (let alone Master triathletes), traditional fluid guidelines for hydrating before, during and after should still be followed. (See Iroman.com nutrition archive for specifics) Masters athletes should continually look at and reevaluate their hydration plan as they may change slightly from one year to the next.

When it's all said and done, every athlete will have embrace the Masters ranks and wear the badge of honor proudly on our calf at every race we do. So here's to being fit, fabulous and 40+

(50, 60, 70+ too!) and may we all stay true to the gospel of good nutrition so we can have many more years racing left to come.

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References for this article are available upon request.

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