



Mountain View High School in Utah excels in distance running and was featured in our March 2011 issue.

## A different perspective on training for distance

BY **KIM GOSS, MS**

It's been said that the most sport-specific training an athlete can do is their sport itself, and endurance athletes have taken this to heart – often to the extreme. After all, if you look at the body types of distance runners, swimmers and cyclists, often they don't display much muscle mass. For this reason, many distance athletes and their coaches don't see the value of pumping iron.

Years ago, it was understandable that endurance athletes were unaware of the benefits of weight training for their sports. In fact, in the 1980s, when I was an editor at *Runner's World* Publications, there was very little scientific research available about the benefits of weight training for endurance athletes. As such, the strength training programs at the time were not very aggressive, and many athletes and coaches did not believe they needed to invest the time and effort in a more serious weight training program.

Today, however, considering all the relevant studies that have been done in the last 30 years, it amazes me that so many endurance athletes still do not accept weight training as an essential method to improve performance and also reduce the risk of injury. Distance runners, swimmers and cyclists will all benefit from pumping some iron. In fact, if you

check out YouTube, you'll see a video clip of Lance Armstrong performing power cleans, dumbbell step-ups and lunges – that's a strong testimonial right there!

It's been proven that weight train-

a 45-minute time trial and in their rate of force development; the control group did not make these improvements. Further, the weight training group decreased their fat mass by an average of 2 percent, compared to the control group, which lost an average of 0.8 percent.

## The Speed Equation

Consider that aerobic capacity is only one aspect of performance for an endurance athlete. Another critical factor is being able to apply large forces for longer periods. In fact, this is exactly what the research on Lance Armstrong's training reveals – that it enables him to generate a higher level of leg power for longer periods.

The relationship between speed and the ability to apply more force for a longer period is not limited to endurance events. Take, for example, one of the most famous sprinting events in history: the 100-meter sprint final in the 1988 Olympic Games. In that competition Ben Johnson ran 9.79 and Carl Lewis ran 9.92, but when you break down the race you find that the fastest 10-meter sprints for both men was 0.83 seconds –

what made the difference was that Johnson could maintain his top speed for a longer distance. Although Usain Bolt did run a 10-meter split of 0.83 seconds at the 2008 Olympics when he ran a world record of 9.69, that was for only 10 meters – again, the difference



Olympic champion and world record holder Chris Witty has competed in five Olympics, four in speedskating and one in cycling.

ing can improve aerobic capacity. In a study published in the December 2011 issue of *Scandinavian Journal of Medicine and Science in Sports*, cyclists participated in a 16-week weight training program. The cyclists who weight trained improved endurance capacity in