Gazelle Sports

PACE YOURSELF OR BRACE YOURSELF!

Proper race pacing can make or break your half marathon or marathon experience and performance. The outcome can just as easily be determined by what happens the first few miles after the gun goes off as much as what happens during the many weeks of training and preparation. What is the best pacing strategy? Should you run hard early on while you are fresh? Run easy at the start and clock a negative split? Or how about running an even pace throughout the entire race?

In 2005 I signed up to run the Martian Marathon. Physically I was well-prepared. I had the training under my belt and was feeling fresh…perhaps a little too fresh. The gun went off, the adrenaline was flowing and I ran the first mile about a minute faster than my marathon pace. The 2nd mile I realized my mistake and pulled it in, but was still about 40 seconds ahead of goal pace. By 6 miles, my pace was 30 seconds ahead, and by 8 miles, I started to slow …to a pace slower than goal marathon pace. By 12 miles it was all over….my calves cramped up so badly from the lactic acid that had accumulated; I had to stop altogether. I dropped out and walked a 3 mile short cut back to the finish.

Three weeks later, at the Boston Marathon, I practiced an entirely different strategy. I ran the first few miles right at marathon pace. It felt very slow, but I knew I had to conserve energy for the hills that loomed beyond the 15th mile. By mid-race, I was very comfortably cruising along the slight downhill and flat sections of the course about 10 seconds faster than goal race pace, but feeling fresh. Eventually the hills, and a natural slowdown in pace came, but the slowdown wasn't drastic and the hills did not present a difficult challenge. Because of the warm weather and hilly course, my calves started to cramp a little during the 17th mile, but it was different than the debilitating cramps that were caused by the accumulation of lactic acid 3 weeks earlier. Pretty soon I had crested Heartbreak Hill, ran down the other side and was approaching Boston proper. Before I knew it, the finish line loomed ahead of me and I crossed in PR time. My average pace per mile was 3 seconds faster than my first mile….and my time a PR on the most challenging road marathon course I had ever encountered.

The answer to proper pacing lies within the principles we learned earlier on lactate threshold. Your ideal half marathon pace is just below lactate threshold and your ideal marathon pace is about 20 – 30 seconds slower than lactate threshold pace. If you run

faster than lactate threshold pace the lactate accumulates in your blood and muscles, which affects the enzymes for energy production and forces you to slow down. When you run faster than lactate threshold, you also use more glycogen, so you are depleted more quickly. This is especially detrimental to marathon performance as it can cause you to "hit the wall" sooner.

The best strategy, as evidenced by both physiology and my Boston experience, is to run relatively even pacing. If you run much faster than your average pace for any one part of the race, you will likely start to accumulate lactic acid and use more glycogen than necessarily. Proper pacing can be especially tricky for the half marathon since it is run so close to lactate threshold. It can be easy to creep above the ceiling. If you attempt to run a negative split and run much slower than your average pace, you will need to make up for it later on, again running faster than your most efficient pace for another part of the race. The best strategy, is to run ***nearly*** even splits, taking into the account the topography of the course. At Boston, my time splits weren't dead even. The first few miles I ran on pace, the middle flat and slightly downhill portions I ran 10 seconds faster, and the up hills a bit slower. The nature of the course required some variation in pace to account for the variation in effort demanded by the terrain.

Most runners shouldn't try to maintain dead even splits, especially in the marathon. During the marathon, your slow twitch fibers gradually become fatigued and your body begins to rely more on the less economical fast-twitch fibers. This will make both your running economy and lactate threshold pace decrease. Towards the end of the marathon, your pace will be reduced slightly. This suggests a more efficient strategy would be to run the first half just slightly (2-3%) faster to allow for the natural slowdown that occurs.

The first mile of a marathon or half marathon you want to run right at or slightly slower than goal pace. You still won't be completely warmed up and won't be prepared to go much faster. Once you have run the first mile, the best strategy is to find a good rhythm; a fast but relaxed pace. For the half marathon, this will be about 5 – 10 seconds slower than lactate threshold, for the marathon about 20 -30 seconds slower. At this stage, you should be cruising and saving your mental and emotional energy for the 2nd half. In the half marathon concentrate on maintain a fairly even pace for the first 10 miles, then dig deep the last 3.1 miles to bring it home. If you paced yourself well and stayed right below that lactate threshold ceiling, you should be able to run a strong final 5k.

In the marathon, the halfway point to 20 miles is where the mental discipline of training really kicks in. At this point you are tired and still have a long way to go. Keep a positive attitude and watch your pace closely. This is where most runners start to let their pace drift, first 5 seconds per mile, then 10, then beyond. Concentrate on your splits…..at this point, most well-trained marathoners are still physically able to maintain goal pace. Sometimes, especially during this stage, it is not uncommon to have a bad patch, and then have it disappear. If you start feeling bad, press on, it may pass. Taking

carbohydrate in the form of energy gels, etc often help with this. The last 6.2 miles is what you have ultimately prepared for during your many months of training and where your long runs will pay off. Dig deep here…you want to push as hard as you can, but not so hard your muscles tighten and you cramp up. Concentrate all the way to the finish line and cross over strongly (but don't sprint at the end of a marathon)! Then Savor the fruit of all your labor…you did it!

Occasionally weather or racing strategy may require you to change your pacing plan. If you are running into a head wind, there is a big advantage to running with a group of runners and taking turns drafting. You save considerable energy this way, but you also may need to run slightly faster or slower to stay with the group. The most you should deviate from your goal pace, however, is about 8 – 10 seconds per mile.

Pfitzinger, P., and S. Douglas. 2001. *Advanced Marathoning*. Champaign, IL: Human Kinetics.