

Chapter 14 UNIQUE NEEDS

第 14 章 独特需要

*I'm a 42-year-old in a 20-year-old's body.
— KENT BOSTICK,
Olympian at age 42 and again at age 46*

*我是 42 岁的年龄，20 岁的体格！
—— KENT BOSTICK
曾在 42 岁和 46 岁时两次参加奥运会*

Wouldn't it be easy if there was a “training formula”? Sometimes I wish there was. Every day I get questions from athletes asking how they should do this or that in their training. They typically tell me their ages, how long they have been in the sport, and their categories. Then they present a training problem to me along with a question of how they should deal with it. I guess most athletes believe there is a body of information out there someplace that allows me to simply answer these questions much as a skilled auto mechanic might do when asked about a 1993 Chevy Caprice that burns oil. It isn't that easy.

On the other hand, I think it's good that we don't have such a one-size-fits-all training formula. That would take all of the fun out of the individualized experience of training. As I've said throughout this book: Training is as much an art as a science. A unique blending of personal experiences with research produces an “art form” called performance. While science can postulate and predict a lot of what to expect when certain elements of human physiology and exercise are combined, it is not even close to being able to state with certainty the outcomes of a given training program for a given individual. In the final analysis, we are each unique and must experiment to find what works best. That makes it fun.

Much of what is presented in this chapter is based on my experiences as a coach and not just on scientific research. I have coached male and female athletes, both young and old and with widely varying experience levels, since 1971. With each of those athletes I've had to make some adjustments in training – no two followed exactly the same program. Some of the adjustments were small, while others were

如果有一个“训练公式”的话该多好啊！有时候我真希望这样。每天我都收到很多运动员的问题，询问他们能否在训练中做这个或者做那个。一般他们都是告诉我他们的年龄，从事运动的年头，他们的能力级别。然后向我描述他们在训练中的问题以及问我该怎么解决它。我猜想大部分运动员都以为我能凭借这些信息轻易地回答他们的问题，我就象一台熟练的机器，而他们的问題则就象“为什么 1993 款的雪佛兰 Caprice 车这么费油”之类的。其实事情没这么简单。

另一方面，我觉得没有这样一个放之四海而皆准的训练公式也是件好事。这样每个人都能从他们的训练经历中得到乐趣。就象我在本书中一直说的：训练更象是一门艺术，而不是科学。这种独特的个人探索的综合体验所造就的“艺术形态”就是运动能力。虽然科学能够在某些人体生理因素和训练因素的综合假设下预测很多事情，但是科学还远远没有达到能确定地告诉某个人执行某项训练计划的效果会如何这样的高度。归根到底，我们每个人都是独特的，必须自己尝试去发现什么最适合自己的，这样也增加了很多乐趣。

本章所述的大部分内容都是根据我做为教练的经验积累，而不是根据科学研究。从 1971 年至今，我曾经训练过各式各样的运动员，男女老少都有，经验级别也相差甚远。对每个运动员的训练我都必须要做一些调整——没有任何两个人的训练计划是相同的。有些调整很小，而有些则很大。本章总结了其中最重要的调整 and 变化，在前面几章

significant. This chapter summarizes the most important changes to what you have read in the previous chapters when it comes to the training of women, masters, and juniors.

Women

Throughout most of the twentieth century there were few sports that women were officially allowed to compete in on a scale even approaching that of men. They were “protected”. The most popular – and “ladylike” – sports throughout most of this period were tennis, golf, gymnastics, and figure skating. At about mid-century, women began challenging the restrictions placed on them, especially when it came to endurance sports. As a result, women made considerable progress toward full acceptance in endurance sports in the latter years of the previous century.

The change was quite evident in the sport of track and field. In the 1928 Olympic Games in Amsterdam, for example, the longest race in which women were allowed to compete was the 800-meter run. In that Olympiad, three female runners broke the world record for the distance, but finished in “such a distressed condition” that officials were horrified and dropped the event from future competition. “Women just weren't meant to run that far,” was the position of many male officials and even scientists. It wasn't until the 1964 Tokyo Games that the women's 800-meter run was resurrected in the Olympics.

Cycling has had its ups and downs when it comes to equality of the sexes but has generally reflected the same attitudes. In the 1890s, the “Golden Age” of cycling, at a time when society often closeted and sheltered the “weaker sex”, women were nonetheless accepted into mass-start races alongside men. It wasn't until many years later that this attitude of near-equality changed and women were discouraged from racing bikes. Then, in the last few decades of the twentieth century, attitudes began to shift again.

中涉及到女性，老将和青少年的训练时，已经对这些内容有所描述。

女性

在整个 20 世纪，正式允许女性参加的运动项目其竞争的剧烈程度都无法和男人相比。女性是“受保护的”，这一时期最流行——也是最“文雅的”——运动是网球，高尔夫，体操和花样滑冰。到了 20 世纪中叶，女性开始抗争摆脱这种强加在她们身上的限制，特别是在耐力型运动项目上。结果到了上世纪末取得了重大的进展，如今女性参加耐力型运动项目已被社会全面接受了。

在田径项目上这种变化非常明显。例如，在 1928 年的阿姆斯特丹奥运会上，允许女子参加的最长距离的比赛是 800 米跑。在那届奥运会中，三名女运动员打破了这个项目的世界记录，但是结果却是“如此地沮丧”：组委会官员们被这个成绩吓坏了，于是决定在以后的竞赛中取消这个项目。“女人不会愿意跑这么远的”是很多男性官员甚至科学家的观点。直到 1964 年的东京奥运会上，女子 800 米跑才重新被恢复为竞赛项目。

自行车运动在取得两性平等方面经历了类似的起起伏伏和社会舆论的压力。在 19 世纪 90 年代，那是自行车运动的“黄金时代”，也是“软弱的性别”被禁闭和受保护的年代，女性当然不可能被允许与男人一起站在比赛的集体出发线上。一直到很多年以后人们才改变这种近似平等的观点以及不鼓励女性参加自行车赛的态度。而到了二十世纪的最后几年，人们的观点又有了变化。

Unique Considerations

A couple of years ago, a particularly thorough female professional cyclist was interviewing me as a potential coach. One of the questions she asked was a good one: Is there any difference between the way men and women should train? My answer was simple: No. Perhaps it was too simple. There are some things women could do differently than men to improve their performance.

There is no getting around the obvious male-female differences. Hip width, short torsos relative to leg length, and a low center of gravity all certainly affect the equipment a woman uses. There are other differences. Numerous studies have demonstrated that elite women athletes have aerobic capacities somewhat below that of elite men. The highest VO₂max ever recorded for a man was 94 ml/kg/min while the highest woman's aerobic power measured was 77 ml/kg/min – both Nordic skiers. Absolute muscular power outputs of women are also well below those of men. In comparison with male athletes, women riders carry a higher percentage of body weight as fat and can generate less absolute force due to their smaller muscle mass. These differences result in about a 10-percent variance in the results of world-class competitions involving males and females, in events ranging from weight lifting to sprinting to endurance sports like bike racing.

In the real world of racing, there are actually more similarities between male and female athletes at comparable levels of sport than there are differences. Women are capable of training at the same volume levels as men, and they respond to training in essentially the same ways. Except for absolute magnitude of workload, there is not much difference in the way the two sexes should train. But there are a few opportunities for individual women to improve relative to their competition that men seldom, if ever, have. Here are five that may give you an edge.

独特的需要

若干年前，某个完全职业化的女自行车运动员在给自己寻找教练的时候面试了我。她问了我一个很好的问题：女人和男人在训练方面有什么不同吗？我的回答很简单：没有不同。也许这个回答太简单了，实际上女性确实有某些不同于男人的用以提高运动能力的训练方法。

关于男女之间身体上的明显不同没什么好说的。臀部宽度，相比于腿长较短的躯干，身体重心较低，所有这些都肯定会影响女性使用的装备。还有其他方面的不同。许多研究都表明，精英级的女运动员的有氧能力比同级别的男运动员低一些。男性最高的 VO₂max 的记录是 94/毫升/千克/分钟，而女性的最高记录是 77/毫升/千克/分钟——二者都来自越野滑雪运动员。女性的肌肉输出功率的绝对值也比男性低很多。与男车手相比，女车手的身体脂肪率更高一些，肌肉块较小所以产生的绝对功率也较少。在世界级比赛中，从举重到短跑，到自行车赛这样的耐力型比赛项目，男性与女性的这种差别大约在 10%左右的范围内变化。

在真实世界的比赛中，相似级别的男女运动员之间的共同点实际上比不同点要多。女性可以完成与男性一样的训练量，她们对训练的反应从本质上说与男性一样。除了训练负荷的绝对量级的不同以外，两性之间的训练方法没有什么大的差别。但是，女性却有一些男性很少甚至没有机会尝试的改善她们比赛能力的机会。以下内容给你 5 个这方面的提示。

Quantity versus Quality

Even though women are fully capable of training at the same volume as men, do they need to? Women's races typically evolve in a way unlike men's. First of all, women's road races aren't as long – sometimes no more than half the men's distance. I have no hard evidence to back this up, but it seems that women's races are, therefore, more likely to end in a pack sprint. But then a rider, or better, a couple of riders, who are strong enough to break from the women's field early in the race, are more likely to stay off the front and finish ahead of the field than in a men's race.

What all of this means is that women road racers should concentrate more on the quality of their training than on their mileage. Not that building an aerobic base with long, steady rides is unimportant – it certainly is. A woman, however, must place more emphasis on developing her muscular endurance, power, and anaerobic endurance for the unique demands of her shorter and relatively faster race. Somewhat shifting the emphasis of training from volume to these abilities is likely to produce better results in women's road races.

Strength

The average woman's total body strength is about a third less than the average man's, but that difference isn't distributed equally. Women are relatively stronger in their legs and weaker in the abdominal region and arms. While women do not race against men, this comparison makes it apparent where a woman's greatest opportunity for improvement lies. By increasing the strength of her arms and abdominal region, a woman can improve her climbing and sprinting relative to her competition. Powerful riding out of the saddle requires strength to stabilize the upper body against the torque applied by the legs. Spaghetti arms and an accordion abdominal muscle dissipate the force produced by the legs.

量 vs. 质

即使女性完全能够完成与男性同样的训练量，她们有必要这么做吗？女子比赛与男子比赛的方式是不同的。首先，女子比赛没有那么长——有时只有男子比赛一半的长度。我没有什么有力的证据支持这种安排，但看起来女子比赛却因此更容易以一种集团冲刺的形式收场。这样的话如果某个车手，或者一组车手足够强壮能够在比赛初期突出大部队的話，她们就更有可能会保持领先并一直到终点，而在男子比赛中这种情况却不太容易发生。

所有这些都说明女子公路车手应该更加重视训练的质量而不是里程数。这并不是说通过长而稳定的骑行来建立有氧基础是不重要的——它当然重要，但是女车手必须把重点放在发展她的肌肉耐力，力度和无氧耐力上，以满足她那相对较短速度较快的比赛的独特需要。把训练重点在某种程度上从训练量转移到这些能力的培养上，更有可能在女子公路赛中取得较佳的成绩。

力量

女子平均的身体力量比男子少了三分之一，但这种不同不是平均分布的。女子的腿部力量相对较强，而腹部和手臂力量较弱。但是因为女子不是和男子同场竞技，所以这种比较结果也暗示了一种能够改善女子能力的巨大机会。通过增进她手臂和腹部的力量，一个女骑手就能比她的竞争对手改善更多的爬坡和冲刺能力。站立式的有力摇车需要力量来稳定上半身对抗躯干施加给腿部的力量。象面条一样的手臂以及象手风琴一样的腹肌会把腿部产生的力量化为乌有。

Upper-body strength work to improve this relative weakness involves pushing and pulling exercises that use all the arm joints plus the back and the abdominals. Abdominal strength also needs emphasizing due to the size and shape of the female pelvis. Whenever possible, work the arms in conjunction with the abdominal and back muscles, rather than in isolation. The seated-row exercise described in Chapter 12 is a good example of a multi-joint exercise that benefits cycling. This station builds the arms and back in a way similar to climbing on a bike. The chest press will also provide muscular balance.

I generally recommend that women riders continue to lift weights year-round, even in the summer racing months. Otherwise, strength may soon be lost after a winter of focused weight room work.

Psychology

Society expects less of women in sports and offers less – less media coverage, less prize money, less crowd support, and less time to train due to greater family responsibilities. That women make it in sport is a testament to their perseverance and dedication.

Despite the socio-cultural obstacles, I have found that women have a somewhat healthier view of winning and losing than do men. Since women typically strive to attain personal standards and are less preoccupied with defeating other riders, they are less devastated by losing and recover faster emotionally. Men take losing, when they feel they should have won, as a mark against their “manhood”.

Women, however, carry even heavier and deeper psychological baggage than men in another area. Women are more likely to associate poor performance with lack of ability. After all, society taught most women that sport was for boys, and girls were not particularly good at it. When men have a bad race, they tend to view the problem as a lack of effort -- ability is not the issue.

上半身的力量练习，包括那些使用所有手臂关节以及后背和腹部肌肉的拉力和推力练习，能够改善这种相对薄弱的环节。由于妇女骨盆的形状和大小的关系，腹部力量也需要做为重点。只要有可能，就要做手臂和腹部背部肌肉相结合的练习，而不要做隔离式的练习。第 12 章介绍的坐姿划船练习就是一个很好的结合了多个关节并有利于骑车的范例。这个姿势以模拟骑车爬山时的动作来培养手臂和背部的肌肉。卧推动作有助于保持肌肉力量平衡。

一般来说，我建议女车手们全年坚持举重练习，即使在夏天的比赛时期。否则的话，经过一个冬天在健身房强化训练出的力量会很快地丧失。

心理状态

在体育方面，大众对女性寄望甚少，当然支持也甚少——较少的媒体鼓励，较少的奖金，较少的拥趸支持，以及被更多的家庭责任拖累的较少的训练时间。女性要靠她们坚定不移的信念和奉献精神才能在体育方面做出成绩。

除了社会文化方面的障碍，我发现女性对于胜负的看法比男性更健康一些。因为女性常常要为达到个人的目标而奋斗，很少会满脑子想着要战胜其他对手，所以她们很少会被失败击倒并能很快恢复情绪。男人则很难面对失败，特别是在他们感觉应该取胜的时候，这也是判断他们是否“成熟”的标志之一。

但是，女性在另一些方面比男人承受了更多的心理负担。人们更容易把女人和能力差联系起来。毕竟社会对大多数女性的教育是：体育是给男孩子玩的，女孩对此并不很擅长。如果男人在比赛中表现很糟，他们总倾向于认为问题在于自己努力不够——而不会怀疑自己的能力有问题。

The Cyclist's Training Bible (3rd edition)
Chapter 14 Unique Needs

Confidence is as important for success in sport as physical ability. No matter how talented you are, if you don't believe you can, you won't. A good example of this is a female cyclist I once coached. She frequently had reasons why she couldn't achieve her high goals and generally thought of herself as inferior to the other women she raced with. She often commented on her limitations and failures. A lack of confidence was her greatest limiter.

I suggested that every night after turning the lights off and before falling asleep, she should use those few minutes in bed to review and relive the major success of her day, no matter how small it seemed. It could simply be that she finished a tough workout feeling strong, or that she climbed one hill particularly well, or that one interval felt especially good. She would recapture that experience in her mind and go to sleep feeling good about her ability.

I also told her to act as if she was the best rider in the peloton. Look at the best riders in your group. How do they sit on their bikes, talk with others, and generally behave? Mimic their behaviors by sitting proudly and confidently on the bike, by looking others in the eye when talking with them, and by acting as if you are the best woman in the field. It's amazing how the mind reacts when the body says, "I'm confident."

I knew that she had a voice in her head that was frequently telling her she was not any good. We all hear this voice from time to time. I told her that when she heard the voice starting to put her down to regain control of her mind by immediately mentally reliving her latest, greatest success. Never let the voice take control of the mind.

That year she had her best season ever, winning a national championship and finishing fifth at the world championship. It's hard to know exactly what the impetus for her obviously improved confidence was, but I believe part of it came from simply looking for

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第 14 章 独特需要

自信对于成功有着与生理能力同样的重要性。不管你的天赋如何，如果你不相信你能，你就是不能。一个很好的例子就是我曾经训练过的一个女骑手。她常常为不能达到更高目标找出各种理由，通常她总是认为自己比不上与她同场竞技的其他女运动员。她经常提起她的限制因素和失败，其实不够自信才是她最大的限制因素。

我建议她每天晚上关灯上床之后和入睡之前，用几分钟的时间在床上回忆一下她曾经的成功经历，不管这个成功看上去多么的小。比如完成了一次艰苦的训练后感觉很棒，或者某次爬山过程特别地出色，或者在某次间歇训练中感觉特别地好。她应该让这些经历重新进入她的信念，并在对自己的能力感觉很棒的好心情里入睡。

我还教她要象大集团中的最好骑手那样行事。观察与你同组的最好的骑手，她们在车上怎么坐，怎么和别人交谈，言谈举止又是如何呢？模仿她们的行为，自豪又自信地坐在车上，和人交谈时盯着她们的眼睛，举止行事好象你是这个领域里最优秀的女人。当身体说“我很自信”时，对意念能产生惊人的反作用。

我知道她脑子里一直有个声音不断地对她说她一点都不出色。我们都时不时地听到过这个声音。我告诉她每当她听到这个声音时，都要马上释放她最近最大的那次成功的回忆，以此来压制这种声音并重新控制自己的意念。不要让这个声音控制你的大脑。

结果那一年是她经历过的最好的一个赛季，获得全国锦标赛冠军以及世界锦标赛的第 5 名。我很难明确知道到底是哪些因素造成了她的自信心的显著进步，但是我相信部分是来自于回忆她日常骑行中的成功经历，以及象顶级车手那样行事并控制自己的头

success in her daily rides, acting as if she were the top rider and taking control of her mind.

Diet

Due to a greater propensity to store body fat, women athletes tend to restrict their caloric intake, especially from foods high in fat and protein. And yet high protein intake has been shown as more necessary for endurance athletes than for the population at large. A low-protein diet can easily cause a decline in aerobic capacity, while producing fatigue and anemia in women cyclists.

Many women cyclists consume fewer than 2,000 calories a day but often require more than 3,000. With an average of 5 milligrams of iron per 1,000 calories in the typical American diet, a female athlete may only be getting 10 milligrams daily, but she needs 15 milligrams. Vegetarian diets, favored by many women, are even lower in iron and provide a less absorbable type of iron. Exercise and menstruation further decrease iron levels. Over the course of several weeks, borderline iron deficiency or even anemia can creep up on a female athlete. Owen Anderson, Ph.D., the publisher of *Running Research News*, estimates that 30 percent of women athletes have an iron deficiency – One study even linked low iron with an increase in running injuries in high school girls.

Eating more calories or including red meat are ways to solve these dilemmas, although not popular ones for many women. There are other ways to improve iron intake and absorption including eating high-iron-content foods with orange juice or vitamin C, eating certain foods such as spinach, and cooking in iron skillets with acidic tomato sauces. It may also be a good idea to talk with a health-care provider about supplementing with iron. Don't supplement iron without medical guidance. It is also wise to avoid food products that hinder iron absorption such as tea, wheat bran, antacids, and calcium phosphate supplements. Women, indeed all riders, should have their

脑。

饮食

由于女性的身体更容易储存脂肪，女运动员也倾向于节制热量的摄入，特别是高脂肪和高蛋白的食物。不过研究显示与一般大众的情况不同，高蛋白质的摄入对耐力运动员是非常必要的。低蛋白质的饮食很容易导致有氧能力的下降，并造成女车手的疲劳和贫血现象。

很多女性车手每天需要超过 3000 大卡的热量，但摄入量却不到 2000 大卡。典型的美国人的餐桌上，每 1000 大卡热量只含有平均 5 毫克的铁，也就是说一个女运动员每天只摄入大约 10 毫克的铁，但其需求量却是 15 毫克。素食，很多女性的最爱，其铁含量更少并且吸收率更低。运动和月经周期更进一步降低了铁质的水平。照这样持续几个星期后，女运动员就会慢慢达到铁质缺乏症甚至贫血症的边缘。Owen Anderson 博士，《跑步研究新闻》的出版者，估计 30 % 的女运动员有铁质缺乏症——另外还有一项研究甚至把铁质过低与高中女生日益增加的跑步损伤联系起来。

解决这一困境的办法是吃进更多的热量或者吃更多的红肉，虽然对很多女性来说这些方式都不受欢迎。解决铁质摄入和吸收问题的另一个解决方法是和橙汁或维生素 C 一起吃进铁质含量较高食物，比如吃菠菜这一类的食物，用铁锅加酸番茄沙司烹调。和保健医生谈谈铁质补充问题也是个好主意。不要在没有医生指导的情况下服用补铁剂。另外你最好能不吃那些会阻碍铁质吸收的食物，比如茶，麦麸，抗酸剂，磷酸钙补剂。女性车手，实际上是所有车手，都应该在冬季做一次血液检查，从而建立其铁质水平的基准线。

blood tested in the winter to establish an iron-level baseline.

Also frequently restricted in the female diet are foods high in fat. Dietary fat is necessary for peak performance. A body deprived of essential fats is in danger of being rundown and susceptible to illness, due to a weakened immune system. If sick, injured, or tired, you can't perform at your best. Include fat in your diet every day from good sources such as nuts, nut spreads, avocados, and canola and olive oil. Continue to avoid saturated fat and trans fatty acids, which are found in foods with hydrogenated fat, such as snack foods and prepackaged meals. Chapter 16 provides more details on the athlete's diet.

Contraceptives and Performance

A study at the University of Illinois showed that women who are on the pill may have an advantage in endurance sports such as cycling. During long endurance runs at a low intensity, women taking oral contraceptives showed an increase in growth hormone. They used significantly find carbohydrates and more fat for fuel than those women not taking the pill. This suggests that using oral contraceptives may improve a woman's capacity for burning fat, may allow her to get into shape faster, and may extend her endurance range in races. I am not aware of any other studies that have tested this finding, so the results should be taken with some reservation.

If you are not currently using an oral contraceptive, talk with your health-care provider before starting. Don't take the pill only for race-performance reasons.

Masters

Since the 1930s, scientists have studied the link between aging and physiological functions. One inescapable conclusion has come from this research: Getting older inevitably means some degree of reduced

另外女性常常限制食用高脂肪的食物。而食物脂肪对保持高峰期的运动能力是必要的。缺少必要脂肪的身体由于免疫系统的减弱很容易生病或者导致衰竭。如果你生病，受伤或者疲惫了，你就不能发挥你的最好水平。在你的每日饮食中增加那些好的脂肪类食物，比如坚果，涂面包的坚果酱，鳄梨，菜籽油和橄榄油。不要吃饱和脂肪和反式脂肪——大量存在于氢合脂肪类食物中，比如快餐和预包装肉类食品。在第 16 章有运动员饮食的更详细的介绍。

避孕药和运动能力

伊利诺斯大学的一项研究显示，那些吃口服避孕药的女性在耐力项目，比如骑车运动上更有优势。在低强度的长距离跑步项目中，吃口服避孕药的女性能分泌更多的生长激素。相比于那些不吃避孕药的女性，她们在运动时消耗更多的脂肪以及更少的碳水化合物。这说明使用口服避孕药能够改善女性燃烧脂肪的能力，帮助她们更快地改善体型，或者增强她们在长距离比赛中的耐力。我不知道是否有其他研究证实这一发现，所以对这样的研究结果应该持一定的保留态度。

如果你现在不吃口服避孕药，那么先和你的保健医生谈谈再决定是否吃。另外不要只为了比赛能力的原因吃这种药丸。

老将

自从 20 世纪 30 年代起，科学家开始研究年龄老化和生理功能之间的联系。这项研究得出一个确定无疑的结论：年老不可避免地意味着某种程度的身体功能衰退。研究显

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function. Aerobic capacity (VO₂max) decline is a good example of what the studies show.

You may recall from Chapter 4 that aerobic capacity is a measure of how much oxygen the body uses to produce energy at a maximal workload. The higher one's aerobic capacity, the greater his or her potential for performance will be in an event like bike racing. Studies show that starting at about age 20, aerobic capacity begins to drop in the general population, in part because maximum heart rate decreases. A lowered maximum heart rate means less oxygen delivery to the muscles, and therefore a lowered aerobic capacity. The usual rate of decline measured in such research is in the range of six to ten beats per decade.

Similar results have come from aging studies on the pulmonary, nervous, muscular, thermal regulatory, immune, and anaerobic systems: Sometimes in the third and fourth decades of life (age 20 to 39), functional decreases begin, with losses of up to 10 percent per decade. Compounding the problem is what appears to be a normal increase in body fat after the early twenties, obviously made worse by a sedentary lifestyle. Again, this is for the general population – not those who race bikes or are highly active.

Flexibility is also lost with age. This is in part due to a drop in the amount of body fluids the body can store in later life. An aging immune system doesn't work as well as it once did, either – a good reason to take antioxidants. Then there's heat. Getting older means not sweating as much in hot, dry conditions, yet our urinary systems are more effective at flushing water, thus decreasing blood volume. To make matters worse, the thirst mechanism isn't as sensitive as it once was. All of this means a greater likelihood of overheating and dehydrating.

The Aging Myth

A little skepticism is a healthy thing when it comes to research. Most studies of aging are

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示的最大摄氧量（VO₂max）的减退就是最好的例子。

你也许还记得在第 4 章中说过，最大摄氧量反映了身体在最大运动负荷时为产生能量所消耗的氧气的度量。一个人的最大摄氧量越高，他在比赛中运动潜力就越大（比如自行车赛）。研究显示从 20 岁开始，普通人群的最大摄氧量就开始下降，部分原因是最大心率开始下降。较低的最大心率意味着传输给肌肉的氧气较少，从而导致较低的最大摄氧量。这项研究显示一般每 10 年最大心率下降 6—10 下。

类似的结论也出现在关于肺部，神经，肌肉，热量调节，免疫，无氧系统的老化研究中：在 20—39 岁之间的某个时刻，身体功能的衰退开始了，衰退的速度达到每 10 年下降 10%。另外，从 20 多岁起身体开始积累脂肪，这本来很正常，但久坐的生活习惯会使它变成了一个问题，并使衰退情况雪上加霜。再次强调，这只针对普通人群——而不是针对那些经常骑车训练或经常运动的人。

身体的柔韧性也随年龄的增加而退化。部分原因是因为年龄越大身体能够储存的水分就越少。免疫系统也不象年轻时那么灵光了——所以需要吃抗氧化剂。还有在干燥炎热环境下的抗热能力，年纪越大意味着出汗越少，排尿系统更多地排出水分，使得血液总量减少。更糟的是，口渴机制也不象原先那么敏感了。所有这些都意味着更大的过热的可能性。

衰老神话

对科学研究来说，抱一点怀疑论调总是有好

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based on “cross-sectional” analysis. This means, for example, that a group of 30-year-olds and a similar group of 40-year-olds are tested for some parameter of fitness, and the difference is assumed as the normal loss.

The alternative is “longitudinal” research, which involves following a group of subjects for several years, testing regularly to see how they change. This method has many benefits. Time is an obvious downside, however, so there are few longitudinal studies of athletes.

Research of aging also raises the question of who the subjects are. Many studies characterize the subjects as “trained endurance athletes.” This vague description is usually based on measures of training volume, such as years of activity, or hours of training in a week. Definitions vary. One study's trained endurance athlete may be another study's novice. Seldom is the intensity of training used to categorize the groups studied, as it is hard to quantify. But since it appears that intensity is the key to maintaining race fitness, this is a crucial issue.

The few longitudinal studies that have been done show that when the intensity of training is maintained, aerobic capacity and other selected measures of fitness decline as little as 2 percent per decade. This is roughly a third to a fifth of what is usually discovered in sedentary subjects, or even in those who maintain their health and continue exercising at low intensities.

The “normal” decline in performance of 6 to 10 percent per decade is probably more a result of self-imposed training and lifestyle limitations than it is of human physiology. Aging may actually only account for a fourth of the losses, while disuse takes the bigger bite.

Beating the Curve

While slowing down with age to some extent may be inevitable beyond some number of years, many riders have found that the rate of

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处的。许多对年龄老化的研究是基于“横向”分析建立的。也就是说，对一组 30 岁的人和一组 40 岁的人测试同样的身体素质指标，二者的区别就被认为是正常的衰退。

而另一种研究方法是“纵向”分析，包括对一组研究对象做多年的跟踪，定期测试以发现他们的变化。这种方法有很多好处。但时间显然是一个不利因素。所以目前很少有做运动员的纵向研究。

年龄老化研究要面对的另一个问题是研究对象。许多研究定义其研究对象为“经训练的耐力运动员”。这是个模糊的描述，其定义基于训练总量的度量方式，比如运动年头，或每周的训练小时数。因为定义的变化，一项研究中的“经过训练”的耐力运动员可能只是另一项研究中的“新手”。而训练强度很少被用于测试人群的分类，因为很难量化。但是我们知道训练强度是保持比赛能力的关键因素，所以这是目前研究中存在的一个关键的问题。

少数已完成的纵向研究报告显示，在保持训练强度的前提下，最大摄氧量和其他身体素质指标的下降速度为每 10 年只有 2%，这大致相当于久坐人群的下降率的 1/3 到 1/5，或大致等同于持续低强度运动以保持健康状况的人群的下降率。

所谓“正常”的每 10 年 6%—10% 的运动能力的下降，也许更大程度上只是某种自我强加的，在人体生理学方面有局限的训练和生活方式的结果。在所有导致衰退的因素中，年龄实际上只排在第四位，而不运动造成的影响要大得多。

战胜下降曲线

虽然随着年龄增长不可避免地会在一定程度上变慢，许多车手发现如果继续主动保持他们年轻时的训练量和训练强度，这种下降的

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decline can be dramatically reduced by a willingness to train with the same high intensity and volume as they did when they were younger. In fact, some of the top masters riders are even doing more now than in previous decades. One scientific study has shown that it's possible to maintain aerobic capacity, a good indicator of fitness, for ten years past your youth. Another has demonstrated that aerobic capacity drops of 2 percent or less can be accomplished well into an athlete's fifties.

The bottom line is that intense training keeps the heart, nerves, muscles, lungs, and other systems all working to their genetic potential. If you never exercise at high intensity, you will lose fitness, and possibly health, more rapidly than is necessary. For those beyond the age of 40, the following training guidelines will help to keep fitness high and, for some, even improving.

Training Implications

How willing and able are you to train as much as you did when younger – or even more? Here are some suggestions for improving your racing even as you get older.

- Strength train year-round. While younger and more naturally muscular athletes may stop strength training in the late winter, masters should continue throughout the year. The stronger you are, the more force you can apply to the pedal. Greater strength means lower perceived exertions at all levels of power output.
- Train a minimum of seven to ten hours a week on average throughout the year. That means an annual volume of at least 350 to 500 hours.
- Take a full twelve weeks in the Base period. Don't cut it short. You must maximize your endurance, force, and speed skills before upping the intensity. Be sure to stay proficient at spinning at high

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趋势可以大大地减缓。实际上，有些顶级的老运动员们现在做的甚至比他们前一个 10 年做的还要多。有一项科学研究表明青春期的最大摄氧量和好的身体素质指标有可能在青春期之后继续保持 10 年。另一项研究表明运动员完全可以达到最大摄氧量只下降 2 % 或更少的程度，一直到他 50 多岁的年纪。

底线是高强度训练可以使心脏，神经，肌肉，肺和其他身体系统都能充分发挥其遗传潜能。如果你从没做过高强度训练，那么你也可能会更快地失去强健的身体，甚至基本的健康。对那些 40 岁以上的人来说，以下的训练原则将会帮助他保持，甚至提高身体素质。

训练提示

你有多大的意愿，或能够多大程度上象你年轻时那么训练——或做的更多一些？下面这些建议能够改进你的比赛能力，即使你已经老了。

- 持续全年的力量训练。在冬季后期，年轻人和肌肉天生发达的运动员也许会停止力量训练，但老将们应该在整个年度里持续力量练习。你越强壮，你的蹬踏就越有力。力量越强也意味着在同样功率输出时更低的自我感知发挥度。
- 平均每周至少训练 7—10 小时，全年不间断。这意味着全年的训练量至少 350—500 小时。
- 基础阶段至少保持完整的 12 周，不要再缩短了。你必须在加大训练强度前最大限度地增强你的耐力，力量和速度技巧。一定要掌握保持高踏频的技巧。

cadences.

- Once you have established your base fitness, put less emphasis than younger riders do on endurance and more on power, anaerobic endurance, and muscular endurance. That means greater attention to jumps, sprints, intervals, and time trialing than to long workouts. Your longest ride should be only as long as your longest race time.
- After you have established your base, allow for more recovery time between workouts than you had in the past. Few masters can handle more than two or three high-quality workouts a week and get away with it for long. Many masters have found it is possible to race quite well on two breakthrough workouts a week. For example, in the Build period, at mid-week combine a muscular-endurance workout with anaerobic endurance or power, doing the faster portion first. Then recover for two or three days and complete a high-intensity group ride or tune-up race on the weekend. Take a day off the bike every week. If you find recovery to be especially difficult, change the pattern of weekly training hours in Table 8.5, so that there are only two weeks between recovery weeks instead of three. Omit the first week in each case. You may find that with only two weeks of hard training, you need only five days or so of recovery before starting the next cycle. So consider training with a pattern of sixteen days of hard training, followed by five days of R&R. Or maybe you'll find that a 15-6 pattern works best at certain times of the season. This will take some experimentation.
- Train in the heat once or twice a week during the summer, including higher-intensity workouts on hot days once you feel adapted. Be especially cautious with your levels of hydration. Drink a 16-ounce bottle of sports drink every hour during a ride whether you feel like it or not. Sip water throughout the day even if you don't
- 当你已经建立了基础的身体素质后，不要象年轻骑手那样把重点放在耐力训练上，而是要重点做力度训练，无氧耐力训练，和肌肉耐力训练。这意味着更加关注突破，冲刺，间歇训练和个人计时，而不是长距离的训练。你训练的最长距离应该就是你比赛的最长距离。
- 当你已经建立了基础能力后，应该适当延长训练或比赛之间的恢复期。老将们几乎不可能长期保持每周进行 2—3 次高质量的训练而不导致训练过度。许多老将发现一周进行两次突破性训练的方式感觉很好。比如，在发展期，每周三或周四进行肌肉耐力训练并结合无氧耐力或力度训练，哪个项目骑得更快就先做哪个。然后花 2—3 天恢复，接着在周末完成一次高强度的大组训练或准备参加比赛。每周要有一天不骑车。如果你觉得恢复比较困难的话，就按照表 8.5 调整每周的训练小时数，使得两个恢复周之间只相隔两周，而不是三周。一般情况下只需把第一周省略即可。你会发现只有两周的艰苦训练，然后就是 5 天的恢复期和下一个艰苦训练的循环。所以训练模式就变成了 16 天的艰苦训练加上 5 天的休息恢复期（R&R），或者你会发现在赛季的某些时候变成 15—6 模式效果会更棒。当然你需要花时间做些试验和摸索。
- 夏天时每周在炎热中训练一到两次，身体适应以后每周要在炎热环境中进行一次高强度的训练。要特别注意补充水分。不管喜不喜欢，每一小时要喝完一瓶 16 盎司（450 毫升）的运动饮料，即使不觉得口渴也要不断啜饮。

feel thirsty.

- Stretch after every workout and again later in the day. Try to become more flexible now than you've been in years. You can do it if you are dedicated.
- In road races, stay in the front third from the start. Due to the wide range in abilities and experience levels at masters races, the groups tend to break up sooner than senior races do.
- 每次训练和比赛后要做拉伸活动，并在晚上再做一次。你要试着比以前更加柔韧一些，只要你专注去做就可以做到。
- 在公路赛中，从出发开始就要保持在前三的位置。因为老将们的能力和经验差别比较大，所以相比于专业级比赛，大组集团会更快地分化。

Diet, Aging, and Muscle

饮食，衰老和肌肉

Popeye was right: Eating spinach can make you stronger and more muscular, especially if you're over age 50. Let me explain.

大力水手是对的：吃菠菜能使你更强壮，肌肉更发达，特别是在你年过五旬之后。下面我会解释。

It's apparent that as we grow older muscle mass is lost. Although this loss is slowed somewhat by weight lifting and vigorous aerobic exercise, it still happens. Even athletes in their sixties typically demonstrate considerably less muscle than they had in their forties.

我们知道随着年龄变老，肌肉块也跟着消失了。虽然举重和剧烈的有氧运动某种程度上能减缓消失的速度，但它毕竟还是要发生。即使是对 60 多岁的老运动员，他们所能展现的肌肉比起 40 多岁时也要少很多。

Now there is research that shows why. Nitrogen, an essential component of muscle protein, is given up by the body at a faster rate than it can be taken in as we get older. This is due to a gradual change in kidney function that comes with aging, ultimately producing an acidic state in the blood. Essentially, we are peeing off our muscles as we pass the half-century mark in life.

现代研究作出了解释。氮，肌肉蛋白质的主要成分，随着年龄老化其流失速度超过了吸收的速度。这主要是因为肾脏功能随着身体老化逐渐发生改变，最后造成了血液的酸性状态，从而打破了氮平衡。换句话说，在人生走过半个世纪之时，我们开始把身体的肌肉“尿”出去了。

Also, with a net loss of nitrogen, new muscle cannot be formed. This same acidic state of the blood also explains why calcium is lost with aging resulting in osteoporosis for many, especially women, with advanced age.

另外，氮的净流失导致新肌肉不能形成。血液的酸性状态也解释了老化引起的钙流失。许多老年人，特别是妇女都有骨质疏松症，这就是钙流失引起的。

The key to reducing, or even avoiding, this situation is to lower the blood's acid level and increasing its alkalinity. There are studies demonstrating that taking a supplement called potassium bicarbonate daily for as few as eighteen days increases the blood's alkaline

减少甚至避免这种情况的关键是降低血液的酸性并增加碱性。有研究表明每日服用碳酸氢钾，只需 18 天就可增加血液碱性使氮吸收平衡。虽然这种制剂在化工实验品商店都能买到，价格相对便宜，但碳酸氢钾是

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level by balancing nitrogen in the body. While it can be purchased relatively inexpensively in laboratory supply shops, potassium bicarbonate is not currently available as an over-the-counter supplement, and there are no long-term studies of its effects on health. There is some evidence that it contributes to irregular ECG readings.

But there is also a natural way of achieving this same result through diet by eating foods that naturally increase the blood's alkalinity – fruits and vegetables. Fats and oils have a neutral effect on blood acid. In other words, they don't make it either more acidic or more alkaline. All other foods, including grains, meats, nuts, beans, dairy, fish, and eggs, increase the blood's acidity. If your diet is high in these latter foods but low in fruits and vegetables, you can expect to lose muscle mass and bone calcium as you age.

A study by T. Remer and F. Manz ranks foods in terms of their effect on blood acidity and alkalinity. For example, the food that has the most acidic effect, therefore contributing to a loss of nitrogen and ultimately muscle, is parmesan cheese. The food Remer found to have the greatest alkaline effect thus reducing nitrogen and muscle loss is raisins. Among vegetables, spinach was the most alkaline food. See what I mean? Popeye was right.

Table 14.1 ranks common foods (per 100-gram portions) and their effect on alkalinity and acidity taken from Remer's study. The higher a food's positive acidic ranking, the more likely it is to contribute to a loss of muscle mass and bone-mineral levels. The more negative the food's alkaline ranking, the more beneficial is the effect on these measures.

酸性食物 (+)		碱性食物 (-)	
谷物		水果	
糙米	+12.5	葡萄干	-21.0
燕麦片	+10.7	黑醋栗	-6.5
全麦面包	+8.2	香蕉	-5.5
意大利面	+6.5	杏子	-4.8
玉米麦片	+6.0	猕猴桃	-4.1
白米饭	+4.6	樱桃	-3.6
黑面包	+4.1	梨子	-2.9

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处方药，而且目前没有关于它对人体长期副作用的研究。有一些证据表明它是引起不规则的心电图的原因之一。

但是我们完全可以通过更自然的方式达到同样的目的——多吃那些能自然增加血液碱性的食物，也就是水果和蔬菜。脂肪和油是中性的，换句话说，它们不会使血液变酸性或变碱性。而所有的其他食物，包括谷物，肉类，坚果，豆类，奶制品，鱼类和蛋类，都是增加血液酸性的。如果你的饮食更多的是后一种食物而较少吃水果和蔬菜的话，到你老了的时候就会损伤更多的肌肉组织和骨质中的钙。

T.Remer 和 F.Manz 曾做过一项研究，把所有的食物按它们对血液酸碱性的影响分类。比如，引起血液酸性最大也就是引起最多的氮流失和肌肉流失的食物，是意大利奶酪。而 Remer 发现碱性最大也就是最大程度减少氮流失和肌肉流失的食物，是葡萄干，而菠菜是所有蔬菜中碱性最强的。明白我的意思了吧？大力水手确实是对的。

表 14.1 中的数据来自 Remer 的研究报告，其中列举了一般食物和它们的酸碱度影响值（每 100 克）。酸性度是正值，碱性度是负值。正值越大，表示该食物对肌肉和骨钙质的流失影响越大；负值越大，表示该食物的碱性越强，对身体的好处也越大。

白面包	+3.7	菠萝	-2.7
奶制品		桃子	-2.4
意大利干酪	+34.2	苹果	-2.2
加工奶酪	+28.7	西瓜	-1.9
硬奶酪	+19.2	蔬菜	
荷兰干酪	+18.6	菠菜	-14.0
软干酪	+8.7	芹菜	-5.2
牛奶	+0.7	胡萝卜	-4.9
豆类		西葫芦	-4.6
花生	+8.3	花椰菜	-4.0
小扁豆	+3.5	土豆	-4.0
豌豆	+1.2	萝卜	-3.7
肉，鱼，蛋		茄子	-3.4
鲑鱼	+10.8	西红柿	-3.1
火鸡	+9.9	莴苣	-2.5
鸡肉	+8.7	菊苣	-2.0
鸡蛋	+8.1	韭菜	-1.8
猪肉	+7.9	洋葱	-1.5
牛肉	+7.8	蘑菇	-1.4
鳕鱼	+7.1	绿胡椒	-1.4
青鱼	+7.0	椰菜	-1.2
		黄瓜	-0.8

Table 14.1 Acidic Ranking of Common Foods

表 14.1 一般食物的酸碱性排行表

Juniors

In 1982, my son Dirk competed in his first bicycle race at age 12. On that cold September day, he raced three laps around the block in baggy windpants with a big smile on his face and finished dead last. But he was hooked. From this inauspicious start, Dirk went on to win the junior Colorado Road Race Championship, make the U.S. national team, race as an amateur in Europe for five years, turn pro at age 22 and continue racing as a pro into his thirties.

How to Improve

As a junior, Dirk was an exceptional athlete, one in whom I saw a great deal of promise. I wanted to coach him, but knew that would not work. A father is a young athlete's worst possible mentor, so I hired Pat Nash, a local coach who specialized in juniors, to work with my son. Dirk's early and continuing success was largely due to Pat's careful nurturing. I

青少年

1982 年，我 12 岁的儿子得克完成了他一生中第一次自行车比赛。在 9 月的寒风中，他挽着松垮的裤脚，带着兴奋的笑脸，围着街区绕了三圈，并得了个倒数第一。但他就此“上钩”了，有了这个不怎么样的开端之后，得克在接下来的比赛中获得了科罗拉多少年组公路赛的冠军，进入了美国国家队，参加了 5 年的欧洲业余比赛，并在 22 岁那年成为职业车手，并一直参加职业比赛到 30 多岁。

如何进步

得克是个不同寻常的少年运动员，我觉得他前程远大。我很想做他的教练，但我知道这样做不行。对年轻运动员来说，没有比父亲更加差劲的导师了，所以我雇用了 Pat Nash，一个当地的专门训练青少年的教练来教导我儿子。得克如此迅速和持久的成功很大程度上归功于 Pat 的精心培养。我对得克

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was not interested in how many races Dirk could win as a teenager. My major concern, which I expressed to Pat, was that Dirk still be enthusiastically riding, racing, and improving at age 25. A good coach helped to make that possible.

If you are a junior and new to racing, try to find a coach who has a local team and rides along on workouts. You and the coach will get to know each other better that way, and he or she will be better able to help you grow as a racer. Avoid coaches and teams more concerned about winning the next race than in developing the team tactics, skills, and fitness that come from a long-term approach.

Another way to speed up your progress is by attending a camp for juniors. These are usually staffed with one or more coaches and, perhaps, with elite riders. In a few days you can learn a lot about training and racing. Check in the advertising sections at the backs of cycling magazines and on the Web for camps that may be available in your area. If the only camps available in your area are for senior riders, call the camp director and ask if it would be appropriate for you to attend.

Cycling clubs are also good for providing support, expertise, racing experience, and the camaraderie of other juniors. Join a club if there is one in your region, and try to ride with the members as often as you can. You'll learn a lot just from being around more experienced athletes. Also ask the club to provide events for juniors at their sponsored races, if they don't already do so.

On a slightly different note, you and your parents have probably come to realize that cycling is an expensive sport. Don't be concerned with having the latest and greatest frame, wheels, and pedals. Instead, concentrate on becoming the best motor and the most knowledgeable and skilled rider in your category. When it's time to replace a bike you've outgrown, talk with other juniors about purchasing a bike for which they've also gotten too big. In the same way, see if younger

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在少年时期赢得多少比赛不感兴趣，我最关心的问题，就象我向 Pat 强调的那样，是得克到了 25 岁时仍然能够热心于骑车，比赛和进步。一个好教练能够帮助他做到这一点。

如果你是个刚刚开始接触比赛的青少年，想办法在当地找一个教练，他有一个团队能让你和他们一起骑车训练，这样你和你的教练就能更好地了解对方，他或她也能更好地帮助你成长为一个比赛选手。指导你的教练和车队不应该是那些太关注比赛胜负的人，而应该从长远角度出发培养你的团队战术，技巧和身体素质。

另一个让你快速成长的方式就是加入青少年训练营。训练营中往往有一个或多个教练，也许还有一些精英骑手。在短短几天里面你能够学到很多关于训练和比赛的事情。查看一下单车杂志背面的广告栏，或者上网查查你们那个地区是否有这样的训练营。如果你们当地只有为资深车手准备的训练营的话，你可以给训练营的主管打电话了解一下参加他们的训练营是否适合你。

自行车俱乐部也能够为你提供支持，技术，比赛经验，以及与其他年轻车手之间的同志友谊。如果你们当地有的话就参加一个俱乐部，然后尽可能多地与会员们一起骑车，你能从周围的更有经验的运动员身上学到很多东西。另外如果俱乐部主办的比赛中没有少年组的话，那么就建议俱乐部增加这类项目。

还有一点就是，你和你的父母也许已经发现骑车是个很花钱的运动。不要去关心那些最新和最好的车架，轮组和脚踏。相反，把精力集中在成为最好的发动机，成为你那个级别最懂行和技术最熟练的骑手。如果你因为身体发育而必须换车子，那么和其他年纪较大的车手商量能否买下他们换下来的车子，然后看看有没有其他比你更小的运动员需要你的旧车子。不要去管单车杂志上或其他人的说法，进步的关键不是装备，而是身

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athletes can use your old bike. Regardless of what you may read in the magazines and what others say, the key to improvement is not equipment, but fitness, bike-racing savvy, and skills.

Training

When your school sports end for the year and bike training starts, it's necessary to keep things in perspective. Remember that you're not an accomplished cyclist yet; there is a lot of room for improvement and steady growth is necessary to eventually achieve your potential. Professional cyclists didn't start off training with huge volumes and lots of intense workouts. They progressed steadily from year to year, a little at a time. Following are suggested guidelines for maintaining a healthy perspective and steady growth.

By age 17, you and your coach should develop an Annual Training Plan like that described in Part IV. Prior to age 17, your training should be mostly centered on the basic abilities of force, endurance, and speed skills with occasional races. In your early years as a cyclist, it is best that you participate in at least one other sport. Even the top champions such as Miguel Indurain and Lance Armstrong did this. Lance was a world-class junior triathlete before he took up bike racing. Don't specialize in cycling before the age of 17 – your long-term development will be greater because of this.

In the first two years of riding, when you are participating in other sports, an annual training volume of 200 to 350 hours is best. By age 17, you should be able to increase the volume, if you have been handling that level without difficulty. But do so gradually. More is not always better, and often worse.

Each year the number of races you enter should increase a little until, by age 18, you are racing as often as seniors. When you begin to race, emphasize team tactics more than winning. Learn what it takes to break away, to

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体素质，比赛时的头脑，以及骑车技巧。

训练

当你结束了学校里的一年的体育活动，并开始骑车训练时，你需要有点前瞻性。记住你还不是个完全成熟的车手；你还有很多的发展空间，所以需要稳定的成长并最终达到你的潜能。职业车手从来不是一上来就做大运动量或者很多的间歇训练。他们是年复一年地稳定发展，每年进步一点点。下面介绍的原则有助于让你保持健康的有前瞻性的稳定成长。

到 17 岁时，你和你的教练应该制定一个年度训练计划，如第四部分介绍的那样。在 17 岁之前，你的训练应该集中于力量，耐力和速度技能这些基本能力上，偶尔参加比赛。在你成为自行车手的早期几年里，你最好能兼练至少一项其他的运动项目。即使是如 Miguel Indurain 或 Lance Armstrong 这样的超级冠军也是这么做的。Lance 在选择骑车生涯之前是个世界级的青少年铁人三项运动员。不要在 17 岁之前专练骑车——你会从中获得长远的发展好处的。

在骑车的头两年中，如果你兼练其他运动项目的话，每年的训练总量最好能控制在 200—350 小时。在 17 岁之前，如果这样的训练量对你来说毫无困难的话，你可以适当增加一些小时数，但要逐步地增加。多不一定是好，而且常常适得其反。

每年你参加的比赛的数量应该比上一年稍微增加一些，这样到了 18 岁你的比赛频率就能象个资深车手了。在比赛中，你要更关注团队战术而不是胜负。学习怎样突破，

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legally block, to work with other riders in a break, to lead out a teammate, and to sprint. Cycling is much like football or basketball in this respect – teamwork produces greater results than everyone riding only for themselves.

Regardless of your age when you begin to do weight room strength workouts, the first year should include only the Anatomical Adaptation (AA) phase. Working both with machines and free weights, perfect your lifting form for each exercise in this first season. In the second year of strength training, it's okay to start the Maximum Strength (MS) phase in the weight room. The first time you do the MS phase use a weight no greater than 80 percent of your estimated one-repetition maximum. Don't worry about finding a one-repetition max. Use the guidelines for estimating it from multiple reps as described in Chapter 12. The most common injury that occurs in juniors starting to lift weights is to the lower back. Be careful. By the third year you should be ready to move into more serious weight work, assuming you are at least 17 by then.

Before the start of each season get a complete physical from your doctor. This is something even the pros do. It will allow you and your coach to start the year with a “clean bill of health.”

When you purchase a handlebar computer, look for one that displays cadence. This is useful for helping you improve leg speed.

Patience

Always try to remember that you are in bicycle racing for the long haul. That's easy to say, but there will be times when you want to accelerate the program and do more because one of your friends is. Before you change the plan, talk with your coach.

In his book, *Greg LeMond's Complete Book of Bicycling*, LeMond describes how when he was 15 he wanted to ride even more

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合理地占位，与其他车手合作突围，为队友领骑，以及冲刺。在这方面骑车运动更加类似于足球或篮球——团队合作能产生比各自埋头骑车更好的结果。

当你开始在健身房做举重训练时，不管你年龄多大，在第一年里训练应该只停留在解剖学适应（AA）阶段。举重器械和自由式举重你应该练习，在第一年里让你的每个动作都做得尽量规范。到了第二年，你就可以开始最大力量（MS）阶段了。第一次做 MS 阶段练习时，选择的重量不要超过你所估计的只能举起一次的最大重量（1RM）的 80%。不用担心怎么计算只能举起一次的最大重量，参考第 12 章中介绍的原则用多次重复方式能够估算出这个值。青少年刚开始举重时最常见的损伤部位就是后背，所以一定要小心。到了第三年，假设那时你已经 17 岁了，你就能够完全准备好进入更严格的举重训练了。

在每个赛季开始前找医生做一次全面体检，即使是职业车手也是这么做的。这能够让你和你的教练的新赛季从一个“干净的健康状况”开始起步。

如果你要买自行车码表，选择带有踏频显示的那种款式，这能帮助你改善两腿踩踏的速度。

耐心

永远记住你参加的是一场要持续很久的单车比赛。虽然说说容易，但到了你想加快你的计划来赶上你的某个朋友的时候，就需要想想这句话了。在你改变计划之前，和你的教练谈谈。

Greg LeMond 在他的《Greg LeMond 的单车生涯》一书中讲到 15 岁那年，他的一个朋友的训练里程数是他的两倍，于是他

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since one of his friends was putting in twice as much mileage. He was smart, however, and held back. The next year his friend was out of cycling, and LeMond went on to become one of America's greatest cyclists. Be patient.

Have Fun

Always remember why you race. It certainly isn't for money or glory – these are far more abundant in sports like football and basketball. You're probably racing bikes for the personal challenge, for the enjoyment of having exceptional fitness, and, most of all, for fun. Keep that perspective. Win with humility, lose with dignity, congratulate those who beat you without offering excuses, and learn from mistakes.

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也想骑得更多一些。但是，最终他还是理智地控制住了自己。第二年他的朋友放弃了骑车，而 LeMond 坚持下去了并最终成为美国最伟大的自行车运动员之一。所以，要耐心些。

乐趣

经常想想你为什么要参加比赛。毫无疑问不是为了金钱和荣耀——在这方面足球和篮球运动能给你的要多得多。你参加单车比赛的目的也许是为了挑战个人极限，为了享受拥有超人的身体素质的快乐，还有最重要的，为了乐趣。保持这样的想法。胜不骄，败不馁，祝贺那些击败你的对手，不为自己的失败找借口，并且从失误中学习和进步。

【1】：原文为 0.7 percent，从上下文意思看似错误。译文改为 7 percent。