



TRAINING PLANS FOR MULTISPORT ATHLETES

YOUR ESSENTIAL GUIDE TO TRIATHLON, DUATHLON,
XTERRA, IRONMAN & ENDURANCE RACING *2ND EDITION*

GALE BERNHARDT

Olympic and USA Triathlon World Cup coach

The information and ideas in this book are for educational and instructional purposes and are not intended as prescriptive advice.

Ironman® is a registered trademark of the World Triathlon Corporation.
XTERRA® is a registered trademark of TEAM Unlimited.

Copyright © 2007 by Gale Bernhardt

All rights reserved. Printed in the United States of America.
No part of this book may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic or photocopy or otherwise, without the prior written permission of the publisher except in the case of brief quotations within critical articles and reviews.

Printed on acid-free paper
Distributed in the United States and Canada by Publishers Group West



VeloPress®
1830 North 55th Street
Boulder, Colorado 80301-2700 USA
303/440-0601 · Fax 303/444-6788 · E-mail velopress@insideinc.com

Library of Congress Cataloging-in-Publication Data

Bernhardt, Gale, 1958-
Training plans for multisport athletes / Gale Bernhardt. — 2nd ed.
p. cm.
Includes bibliographical references and index.
ISBN 1-931382-92-1 (alk. paper)
1. Triathlon—Training. 2. Physical education and training. I. Title.
GV1060.73.B465 2006
796.42'57—dc22

2006031705

Cover design by Stephanie Goralnick
Cover photo by Chris Milliman
Interior design by Nicola Ferguson
Back cover photos by Timothy Carlson (*left*) and Don Karle

For information on purchasing VeloPress books, please call 800/234-8356 or visit www.velopress.com.

10 9 8 7 6 5 4 3 2 1

C O N T E N T S

Foreword by George M. Dallam, PhD, *xi*

Preface to the Second Edition, *xiii*

Preface to the First Edition, *xiv*

Acknowledgments, *xvi*

Introduction, *xix*

Workout Codes Quick Reference, *xxv*

PART I: MULTISPORT BASICS 1

- 1 Can One Plan Fit All?, 3
- 2 Levels of Exercise, 13
- 3 Basic Nutrition for Endurance Training, 31

PART II: FAST-TRACK TRAINING 61

- 4 12 Weeks to a Sprint Triathlon for Athletes with Limited Fitness, 63
- 5 6 Weeks to an Olympic Triathlon for Athletes with Limited Time, 75
- 6 13 Weeks to a Half-Ironman for Athletes with Limited Time, 83
- 7 13 Weeks to an Ironman for Athletes with Limited Time, 91

PART III: DUATHLON, XTERRA, AND GENERAL MULTISPORT TRAINING 99

- 8 Cyclist to Duathlete, 101

CONTENTS

- 9** Runner to Duathlete, *107*
- 10** XTERRA and other Mountain Bike Triathlons, *113*
- 11** Multisport Fitness Plan, *123*

PART IV: TRAINING FOR IMPROVED PERFORMANCE 137

- 12** Faster Sprint-Distance Performance, *139*
- 13** Faster Olympic-Distance Performance, *149*
- 14** Faster Duathlon Performance, *161*
- 15** 13 Weeks to a Sub-13-Hour Ironman, *169*

PART V: LONG-TERM TRAINING 183

- 16** 27-Week Plan to a Half-Ironman, *185*
- 17** 26-Week Plan to an Ironman, *199*
- 18** 52-Week Plan to an Olympic-Distance Triathlon, *211*

PART VI: WORKOUTS AND WORKOUT CODES 231

- 19** Swim Workouts, *233*
- 20** Bike Workouts, *241*
- 21** Run Workouts, *249*
- 22** Strength Training and Stretching, *257*

Epilogue, *271*

APPENDICES

- A** Field Tests for Estimating Lactate Threshold Heart Rate on the Bike, *273*
- B** Field Tests for Estimating Lactate Threshold Heart Rate on the Run, *282*

C Training with Power, 286

D Health Questionnaire, 289

E Sample Swim Workouts, 293

F General Instructions for Plyometric Workouts, 298

G Instructions for Treadmill Workouts, 304

H Instructions for Treadmill Track Workouts, 307

I Travel and Race Day Checklist, 312

References, 314

Glossary, 319

Index, 321

About the Author, 325



1

CAN ONE PLAN FIT ALL?

Gale has painstakingly gone through the literature and applied scientific theory to sound coaching practice. This is what the multi-sport world has needed for years.

—JAMES M. GREEN

In all the years I've been coaching individual athletes, I've never written two training plans exactly the same—even if two athletes had the same race schedule. This is because there are sundry elements that enter into creating a training plan, including the athlete's work schedule, family obligations, ability to recover from training and racing, individual fitness areas that limit performance, experience level, desire, nutrition, and genetics, for example. But just how much of our performance can we control, and how much is fate?

FACTORS THAT INFLUENCE TRAINING

GENETICS

Sometimes parents are blamed for an athlete's endurance performance. Your parents *are* responsible—for a portion of your performance. Several scientific studies have been conducted to determine if genetics are responsible for great

athletic performances. Claude Bouchard, PhD, and a team of researchers at Laval University in Québec looked at identical twins and put a group of 20 (i.e., 10 pairs) on a 20-week training program. The twins trained four to five times per week for 45 minutes each session, at an average intensity of roughly 80 percent of maximum heart rate. The result? Identical twins did in fact respond nearly identically to the training program. One pair gained 10 and 11 percent respectively on their VO_2 max, or aerobic capacity, while a second pair gained 22 and 25 percent. Most of the variation in performance gains was among individuals who were not related, not between genetically identical twins.

Although this study of twins revealed that 82 percent of the variation in VO_2 max was due to genetics, it also revealed that only 33 percent of the differences found in ventilatory threshold (another benchmark of improvement) were attributable to genetics. This is important because ventilatory threshold—and the closely related lactate threshold—are frequently found to be the best predictors of actual performance. This is good news for all of us, because lactate threshold tends to be more trainable than VO_2 max.

The researchers at Laval conducted further studies, concluding that genetic factors account for only 20 percent of the variation in the performance of endurance athletes. Nongenetic factors, however, were found to influence 40 percent of the variation. Nongenetic factors include nutrition, lifestyle, past exercise patterns, age, socioeconomic status, and mental skills, to name a few. Gender differences accounted for 10 percent. The final 30 percent of variation was due to how a particular set of genes reacted to a particular training program. That is, some people respond to one training program, but not to another.

So what's the bottom line? First, you can control around 70 percent of your performance, and second, what works for you won't necessarily work as well for the multisport athlete next to you.

TRAINING RESPONSE RATES

Speaking of that person next to you, what about the differences between athletes using the same program? The researchers at Laval conducted an-

other study to determine how much variation there would be in fitness gain if people followed the same training program. In this study, 24 similar subjects (initially sedentary) followed the same training program for 20 weeks. After 20 weeks, there were some big changes. The average gain in VO_2max was 33 percent, and one person in the group gained a whopping 88 percent! Unfortunately, another individual sweating on the same plan increased VO_2max by a mere 5 percent.

In the same study, scientists measured power output on a bicycle ergometer, on which subjects pedaled away for 90 minutes. Their average power output was measured before the training program began and again at the completion of the 20 weeks. The average power improvement was a nice 51 percent. One happy person gained a gigantic 97 percent, while another gained only 16 percent.

Why do some people seem to make big gains while others make minimal gains? And do their gains happen at even rates? The studies at Laval led researchers to believe people can be divided into “responders” and “non-responders.” Those who are considered responders make big improvements in aerobic capacity and power as a result of their training, while nonresponders barely show a gain, even after 20 weeks of hard work. The scientists estimate that around 5 percent of us are high responders who can make improvements over 60 percent, while about the same number are low responders and may only expect a 5 percent improvement.

In addition to identifying responders and nonresponders, the studies revealed a scale of responsiveness. Some people made solid gains after just four to six weeks of training, but seemed to plateau and made minimal gains in weeks seven to twenty. Others were late bloomers who were at a standstill for six to ten weeks, but then improved their aerobic capacities by 20 to 25 percent after ten weeks of additional training.

HOW TO MODIFY TRAINING PLANS

Given any single training program, not all individuals will react exactly the same. Some people will make big gains while others may make marginal

gains. Some will make their gains quickly, while others do so after more time has passed. Learning how your body responds to training and how to make adjustments will help you optimize your performance.

While there are limitations to using a generic training program, I've found that a good number of athletes have been quite successful using my plans as a guide. Some are versions of plans I've written for *Triathlete* and other magazines over the years. They are a combination of several individual training plans that have been tested and tweaked by many athletes.

At the beginning of each plan in this book is an athlete profile describing the person the plan is written for, a goal, and what the athlete should expect if he or she follows the plan. Each chapter in the second edition has been bolstered with even more tips on how to modify the particular training plan featured in that chapter. For additional help in modifying the plans, I'm including a list of common questions raised by athletes looking to tailor a training plan to their needs. Many of these questions and answers will make more sense after you choose a training plan and more thoroughly review the weekly workouts.

GENERAL QUESTIONS AND ANSWERS

TRAINING VOLUME

Q: Should I always shoot for the longer workout when a range is given?

A: No. A range is given on some workouts to allow you to customize the workout according to how you feel. Also, if you are in a time crunch and you have to cut the workout short, do fewer repetitions.

Q: If a bike workout prescribes two hours and I am feeling great, can I just go ahead and ride three hours?

A: Generally speaking, on two-hour rides, try not to go over or under more than about 15 minutes. On three-hour and longer rides, shoot for plus or

minus 20 to 30 minutes. On shorter weekday rides, try to stay within around 10 minutes of the recommended duration.

Q: What happens if I get in a real time crunch and can only do 30 minutes of a 60-minute workout or I have to skip it altogether?

A: Realistically, you will probably miss a few workouts. If you need to skip a workout, try to make it an E1 workout that is one hour or less. The priority workouts are usually the long weekend workouts that continuously build volume, weekday intervals, and strength sessions.

Q: Is race performance related to training volume? In other words, if I use the training plan with the highest volume, will I be faster?

A: You will be faster only if your body can handle the training load and recover from that load. Know that the highest training volume does not always correlate to podium performance. Do the least amount of training that gives you continuous improvement.

TRAINING SCHEDULE

Q: Can I rearrange the workouts within the week? I work weekends.

A: Rearranging the workouts is fine, with a few guidelines:

- *Allow at least 48 hours between strength training sessions.*
- *Breakthrough workout sessions should be 48 hours apart unless the original plan states otherwise.*
- *Do not try to make up missed weekday workouts on the weekend. In other words, don't try to ride for six hours on Saturday if you missed three one-hour workouts during the week and you have a three-hour Saturday ride scheduled.*

Q: If a swim, then a run, is shown on a particular day, do they have to be done in that order?

A: No. If your masters swimming group meets in the evening and you run in the morning, that's fine.

Q: If I miss a Thursday run or bike and Friday is shown as a day off, can I move the missed workout to Friday?

A: Yes, just be careful not to start “stacking” workouts on top of each other. Missing several workouts during the week cannot be made up in a couple of days on the weekend.

Q: I can only make it to the gym once a week. Is one strength training session really worth it?

A: Strength can be maintained by lifting once per week.

HEALTH AND TRAINING

Q: What if I get sick; can I still train?

A: If your symptoms are above the neck and minimal (runny nose, headache, scratchy throat), go ahead and work out if you feel up to it. Cut your intensity to Zones 1 and 2. Reduce the total workout time or stop altogether if you feel bad once you begin the workout.

If your symptoms are below the neck or intense (cough, chills, vomiting, achy muscles, fever, sore throat), do not even start the workout. A virus likely causes these symptoms. Ignoring the symptoms and trying to train through the illness carries the risk of a more serious illness that can literally sideline you for months. Missing a few days of training to get well is your best investment of time.

Q: What happens if I miss some training days due to illness?

A: If you miss one to three days, resume your training as shown on the plan, skipping the workouts you missed. If you miss a week or more, consider adjusting your competition goals accordingly. Depending on how you recover,