



To Lipitor or Not: The Role of Wheat

As noted earlier, wheat consumption increases LDL cholesterol; eliminating wheat reduces LDL cholesterol, all by way of small LDL particles. But it may not look that way at first.

Here's where it gets kind of confusing.

The standard lipid panel that your doctor relies on to crudely gauge risk for heart disease uses a calculated LDL cholesterol value—not a measured value. All you need is a calculator to sum up LDL cholesterol from the following equation (called the Friedewald calculation):

$$\text{LDL cholesterol} = \text{total cholesterol} - \text{HDL cholesterol} - (\text{triglycerides} \div 5)$$

The three values on the right side of the equation—total cholesterol, HDL cholesterol, and triglycerides—are indeed measured. Only LDL cholesterol is calculated.

The problem is that this equation was developed by making several assumptions. For this equation to work and yield reliable LDL cholesterol values, for instance, HDL must be 40 mg/dl or greater, triglycerides 100 mg/dl or less. Any deviation from these values and the calculated LDL value will be thrown off.^{13,14} Diabetes, in particular, throws off the accuracy of the calculation, often to an extreme degree; 50 percent

For years, this simple fact eluded nutrition scientists. After all, dietary fats, maligned and feared, are composed of triglycerides. Logically, increased intake of fatty foods, such as greasy meats and butter, should increase blood levels of triglycerides. This proved true—but only transiently and to a small degree.

More recently, it has become clear that, while increased intake of fats does indeed deliver greater quantities of triglycerides into the liver and bloodstream, it also shuts down the body's own production of triglycerides. Because the body is able to produce large quantities of triglycerides that handily overwhelm the modest amount taken in during a meal, the net effect of high fat intake is little or no change in triglyceride levels.¹⁵

inaccuracy is not uncommon. Genetic variants can also throw the calculation off (e.g., apo E variants).

Another problem: If LDL particles are small, calculated LDL will underestimate real LDL. Conversely, if LDL particles are large, calculated LDL will overestimate real LDL.

To make the situation even more confusing, if you shift LDL particles from undesirably small to healthier large by some change in diet—a good thing—the calculated LDL value will often appear to go up, while the real value is actually going down. While you achieved a genuinely beneficial change by reducing small LDL, your doctor tries to persuade you to take a statin drug for the appearance of high LDL cholesterol. (That's why I call LDL cholesterol "fictitious LDL," a criticism that has not stopped the ever-enterprising pharmaceutical industry from deriving \$27 billion in annual revenues from sales of statin drugs. Maybe you benefit, maybe you don't; calculated LDL cholesterol might not tell you, even though that is the FDA-approved indication: high *calculated* LDL cholesterol.)

The only way for you and your doctor to truly know where you stand is to actually measure LDL particles in some way, such as LDL particle number (by a laboratory method called nuclear magnetic resonance, or NMR, lipoprotein analysis) or apoprotein B. (Because there is one apoprotein B molecule per one LDL particle, apoprotein B provides a virtual LDL particle count.) It's not that tough, but it requires a health practitioner willing to invest the extra bit of education to understand these issues.

Carbohydrates, on the other hand, contain virtually no triglycerides. Two slices of whole grain bread, an onion bagel, or sour-dough pretzel contain negligible triglycerides. But carbohydrates possess the unique capacity to stimulate insulin, which in turn triggers fatty acid synthesis in the liver, a process that floods the bloodstream with triglycerides.¹⁶ Depending on genetic susceptibility to the effect, carbohydrates can send triglycerides into the hundreds or even thousands of mg/dl range. The body is so efficient at producing triglycerides that high levels, e.g., 300 mg/dl, 500 mg/dl, even 1,000 mg/dl or more, can be sustained twenty-four hours a day, seven days a week for years—provided the flow of carbohydrates continues.

WHEAT BELLY

LOSE THE WHEAT, LOSE THE WEIGHT,
AND FIND YOUR PATH BACK TO HEALTH

WILLIAM DAVIS, MD



This book is intended as a reference volume only, not as a medical manual. The information given here is designed to help you make informed decisions about your health. It is not intended as a substitute for any treatment that may have been prescribed by your doctor. If you suspect that you have a medical problem, we urge you to seek competent medical help.

Mention of specific companies, organizations, or authorities in this book does not imply endorsement by the author or publisher, nor does mention of specific companies, organizations, or authorities imply that they endorse this book, its author, or the publisher.

Internet addresses and telephone numbers given in this book were accurate at the time it went to press.

© 2011 by William Davis, MD

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any other information storage and retrieval system, without the written permission of the publisher.

Rodale books may be purchased for business or promotional use or for special sales. For information, please write to:
Special Markets Department, Rodale, Inc., 733 Third Avenue, New York, NY 10017

Printed in the United States of America
Rodale Inc. makes every effort to use acid-free ♻️, recycled paper ♻️.

Book design by Joanna Williams

Library of Congress Cataloging-in-Publication Data is on file with the publisher.
ISBN 978-1-60961-154-5

Distributed to the trade by Macmillan
12 14 16 18 20 19 17 15 13 hardcover



We inspire and enable people to improve their lives and the world around them.

www.rodalebooks.com