

The Methuselah Factor

David DeRose, MD, MPH
CompassHealth Consulting, Inc.
www.compasshealth.net

Friend or Enemy?



Turning Back the Clock



Hemorheology

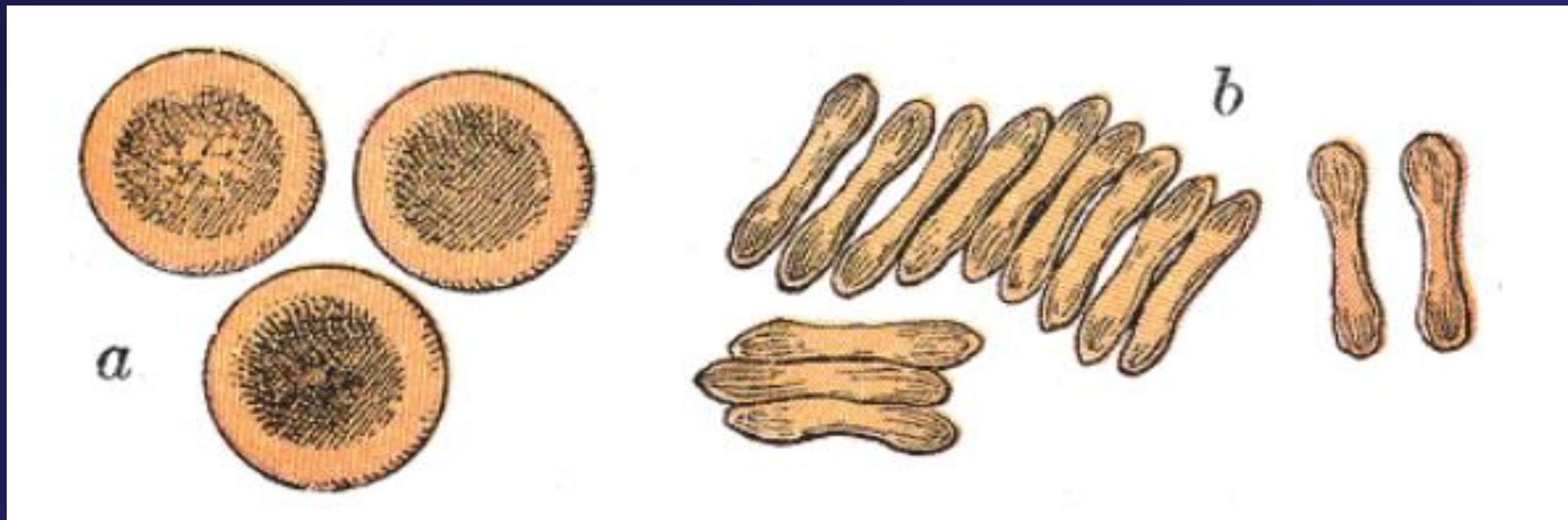
Hemo – blood

Rheology – a science dealing with the flow properties of matter

Hemorheology Definitions

- “The science of the physical properties of blood flow in the circulatory system.”
- “The science of the relation of pressures, flow, volumes, and resistances in blood vessels.”

The Red Blood Cell



Hemorheology in a Nutshell

The science that describes how effectively blood flows through your body, nourishing your tissues and eliminating wastes.

Why is *Hemorheology*
Important?

“Perfect health depends on
perfect circulation”

Optimal Hemorheology Helps Prevent...

- Stroke
- Coronary Artery Disease
- Blindness (Glaucoma and Macular Degeneration)
- Cancer

Optimal Hemorheology Helps Prevent...

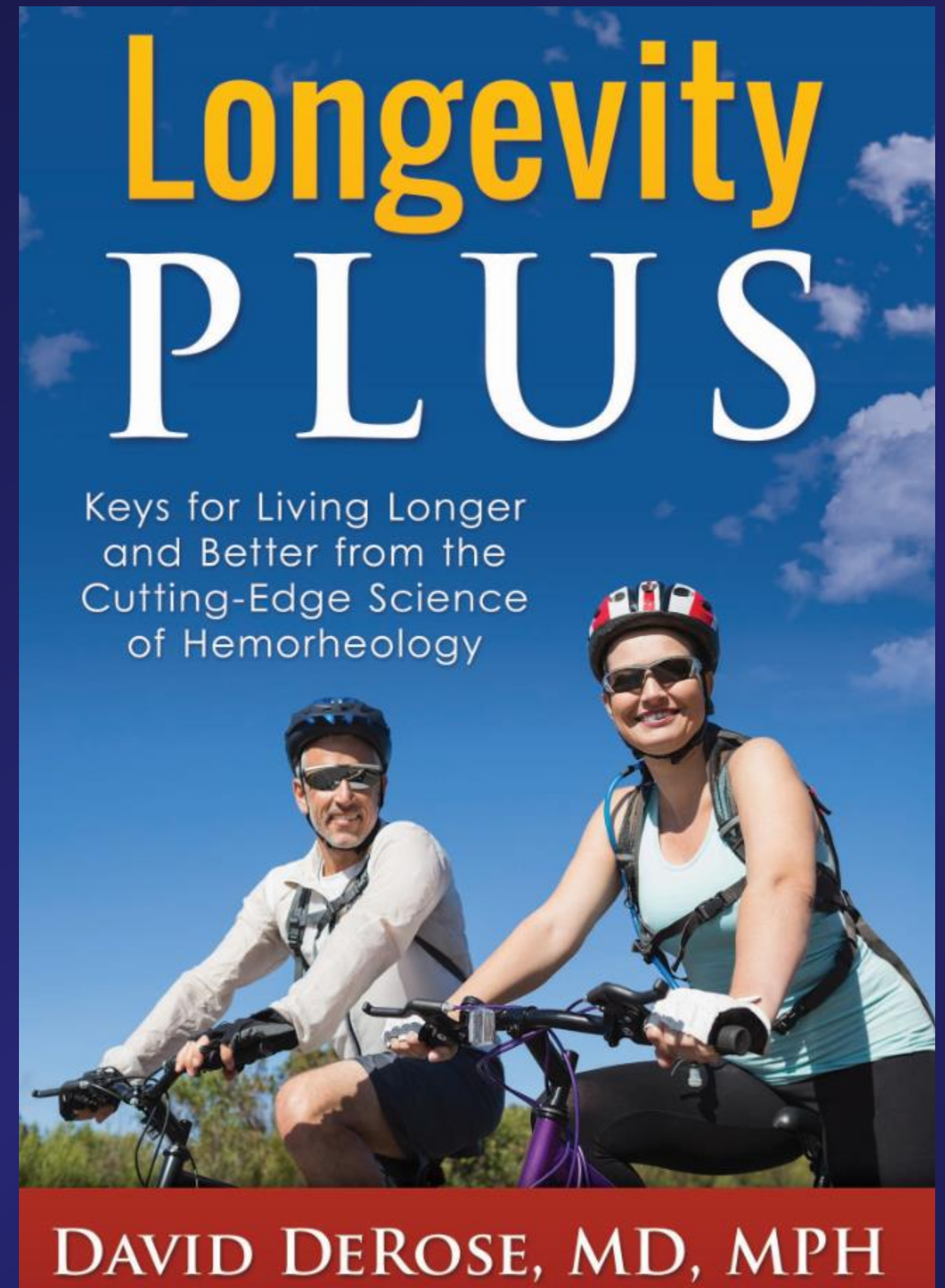
- Cognitive Decline
- Hypertension
- Diabetes
- Hypercholesterolemia
- Weight Gain

Optimal Hemorheology Helps Prevent...

- Bone and Joint Problems
- Physical Aging
- Suboptimal Physical Performance

Challenges in Assessing Hemorheology Data

- Most studies do not look comprehensively at hemorheology
- Instead, they look at factors that influence hemorheology



Optimal Hemorheology Helps Prevent....

- **Stroke**
- Coronary Artery Disease
- Blindness (Glaucoma and Macular Degeneration)
- Cancer
- Cognitive Decline

Stroke and Hemorheological Factors

- A fascinating 2004 study...
- 297 patients with a history of either stroke or TIA were compared with 73 healthy controls

Szapary L, et al. Hemorheological disturbances in patients with chronic cerebrovascular diseases. Clin Hemorheol Microcirc. 2004;31(1):1-9.

The following factors were significantly higher in those with cerebrovascular disease:

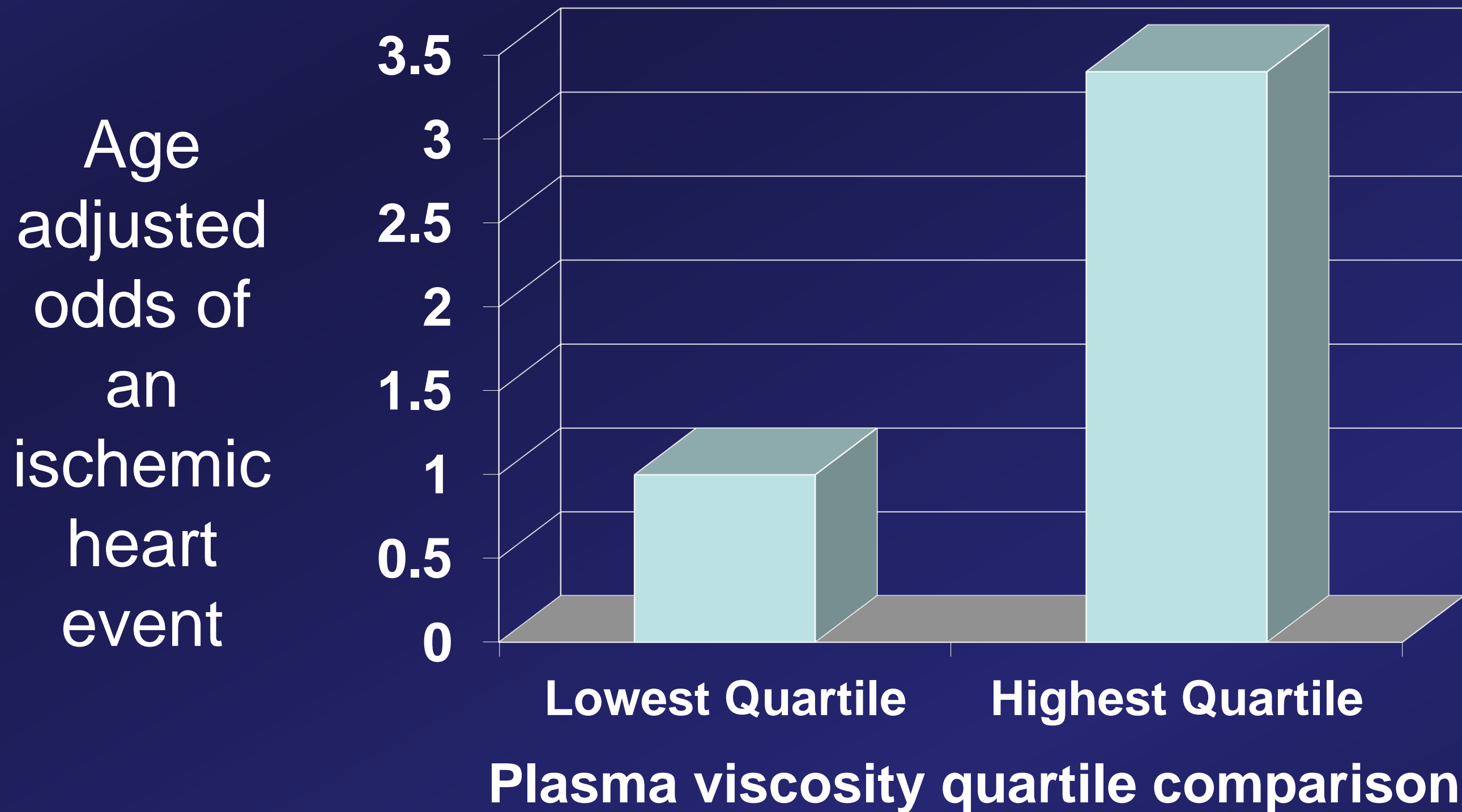
- Hematocrit*
- Plasma viscosity* and whole blood viscosity
- Plasma fibrinogen
- Red blood cell aggregation*

* the worse the three asterisked factors, the worse the blockages in the carotid arteries

Optimal Hemorheology Helps Prevent....

- Stroke
- **Coronary Artery Disease**
- Blindness (Glaucoma and Macular Degeneration)
- Cancer
- Cognitive Decline

Plasma Viscosity and Increased Heart Disease



References include:
Yarnell JWG, et al. *Circulation* 1991; 83:836-844.
Sweetnam PM, et al. *Eur Heart J* 1996; 17:1814-1820

Optimal Hemorheology Helps Prevent....

- Stroke
- Coronary Artery Disease
- **Blindness (Glaucoma and Macular Degeneration)**
- Cancer
- Cognitive Decline

Hemorheology and Macular Degeneration

ARMD [Age-related macular degeneration] subjects had higher levels of blood fluidity-worsening factors:

- **Plasma viscosity**, $P < 0.0001$ (a hemorheologic marker)
- **Fibrinogen**, $P < 0.0001$ (an indicator of impaired rheology and increased clotting)
- **von Willebrand factor**, $P = 0.0004$ (a marker of endothelial dysfunction and poor hemorheology)

The Methuselah Factor and Blindness

Comparison of 31 patients with glaucoma and 30 normal subjects found those with glaucoma had significantly higher levels of:

- Blood and plasma viscosity
- Hematocrit
- Fibrinogen
- Erythrocyte aggregation

Optimal Hemorheology Helps Prevent....

- Stroke
- Coronary Artery Disease
- Blindness (Glaucoma and Macular Degeneration)
- **Cancer**
- Cognitive Decline

Hemorheological Factors Connected to Cancer Risk

Factor	Primary CA	Metastatic CA
Platelet Count		↑
Fibrinogen		↑
Thrombin	↑	↑

Jain S, Harris J, Ware J. Platelets: linking hemostasis and cancer.
Arterioscler Thromb Vasc Biol. 2010 Dec;30(12):2362-7.

Cancer and the “H Factor”

- Plasma viscosity was measured preoperatively in women undergoing surgery for gynecological cancers.
- In both ovarian and cervical cancer patients, plasma viscosity was a significant risk factor for subsequent thrombosis.

Cancer and the “H Factor”

- Viscosity was also a significant risk factor for overall survival in ovarian cancer patients

von Tempelhoff GF, et al. Association between blood rheology, thrombosis and cancer survival in patients with gynecologic malignancy. Clin Hemorheol Microcirc 2000;22(2):107-30

The Authors' Conclusion

“In gynecologic cancer patients the combination of an increase in RBC aggregation and plasma viscosity impairs blood-flow-properties and may induce hypoxia in the microcirculation that favors thrombosis, settlement of tumor-cells and thus metastasis.”

von Tempelhoff GF, et al. Association between blood rheology, thrombosis and cancer survival in patients with gynecologic malignancy. Clin Hemorheol Microcirc 2000;22(2):107-30

Optimal Hemorheology Helps Prevent....

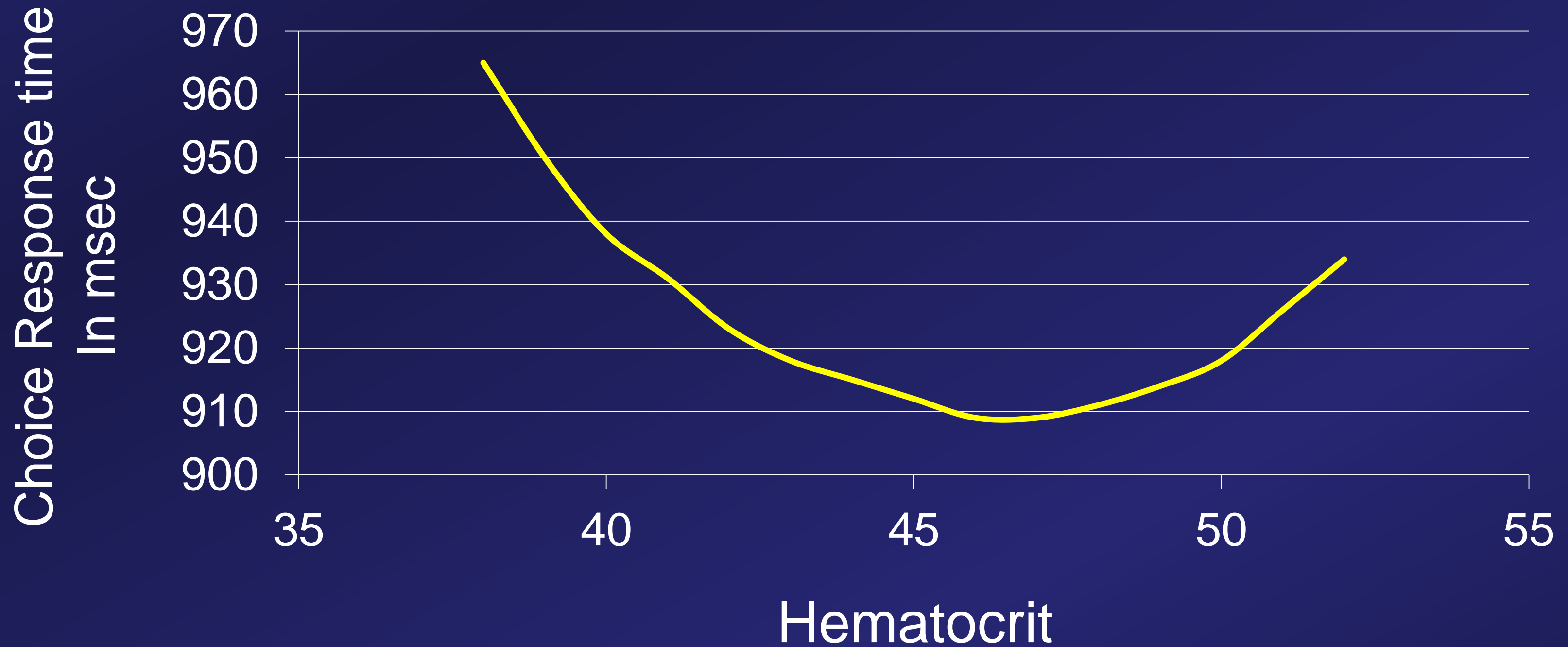
- Stroke
- Coronary Artery Disease
- Blindness (Glaucoma and Macular Degeneration)
- Cancer
- **Cognitive Decline**

Mental Health and the Methuselah Factor

Hematocrit shows a U-shaped relationship with cognitive function. Test results are best around the middle of the distribution.

Elwood PC, Pickering J, Gallacher JE. Cognitive function and blood rheology: results from the Caerphilly cohort of older men. *Age Ageing* 2001 Mar;30(2):135-9

Hematocrit and Choice Response Time



Mental Health and the Methuselah Factor

Plasma viscosity is strongly related to cognitive function: the lower the viscosity, the better the cognitive function.

Elwood PC, Pickering J, Gallacher JE. Cognitive function and blood rheology: results from the Caerphilly cohort of older men. *Age Ageing* 2001 Mar;30(2):135-9

Mental Health and the Methuselah Factor

- Lower plasma viscosity improves reaction speed.
- Earlier work showed that venesection could improve “mental alertness.”

Elwood PC, Pickering J, Gallacher JE. Cognitive function and blood rheology: results from the Caerphilly cohort of older men. *Age Ageing* 2001 Mar;30(2):135-9

Optimal Hemorheology Helps Prevent....

- Hypertension
- **Diabetes**
- Hypercholesterolemia
- Weight Gain

Optimal Hemorheology Helps Prevent....

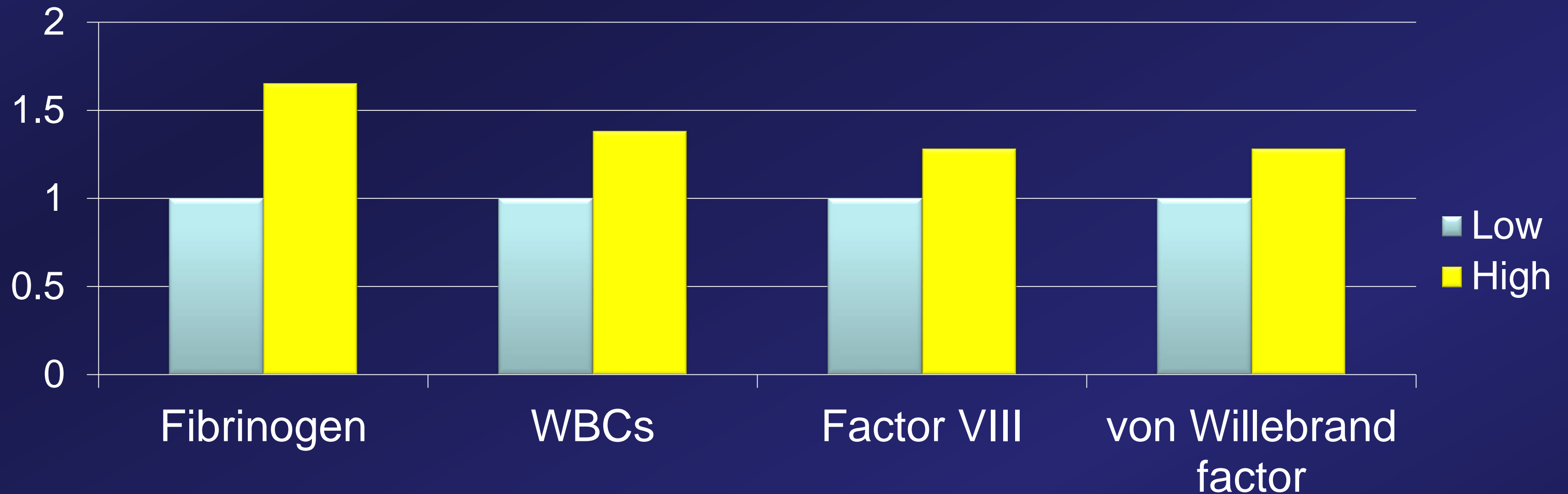
- Hypertension
- Diabetes
- Hypercholesterolemia
- **Weight Gain**

Hemorheology and Weight Gain

- Duncan and colleagues studied 13,017 men and women, 45 to 64 years of age, for three years.
- They looked to see if subjects with evidence of worse hemorheology were more likely to gain weight
- Specifically, they made interquartile comparisons, looking for correlations with greater weight gain ($\geq 90^{\text{th}}$ percentile).

Risk of a Large Weight Gain

(Top 10% of Weight Gainers Over Three Years)



All differences statistically significant

Duncan BB, et al. *Obes Res.* 2000;8:279-286.

Optimal Hemorheology Helps Prevent...

- **Bone and Joint Problems**
- Physical Aging
- Suboptimal Physical Performance

The Methuselah Factor and Autoimmune Rheumatologic Diseases

- Improved hemorheology may help to treat or prevent such autoimmune conditions.
- Consider some journal article titles...

Preventing or Treating Scleroderma

- Successful long-term (22 year) treatment of limited scleroderma using therapeutic plasma exchange: Is blood rheology the key? *Clin Hemorheol Microcirc.* 2017;65(2):131-136.

Preventing or Treating Scleroderma

- Korsten P, Niewold TB, et al. Increased Whole Blood Viscosity Is Associated with the Presence of Digital Ulcers in Systemic Sclerosis: Results from a Cross-Sectional Pilot Study. *Autoimmune Dis.* 2017;:3529214.

Treating Lupus

- Barnes JN, Nualnim N, et al. Macro- and microvascular function in habitually exercising systemic lupus erythematosus patients. *Scand J Rheumatol*. 2014;43(3):209-16.

Osteoarthritis and Circulation

- Disordered blood flow to the spine is associated with both low back pain and degenerative disc disease.

Kauppila LI. Atherosclerosis and disc degeneration/low-back pain--a systematic review. *Eur J Vasc Endovasc Surg.* 2009 Jun;37(6):661-70.

Osteoarthritis and Circulation

- “Tibial cartilage volume” is a measure of knee joint health before the onset of osteoarthritis
- Indicators of poor hemorheology like fibrinogen were associated with less tibial cartilage.

Antony B, Venn A, Cicuttini F, et al. Arthritis Care Res (Hoboken). 2016 Apr;68(4):517-25.

Optimal Hemorheology Helps Prevent...

- Bone and Joint Problems
- **Physical Aging**
- Suboptimal Physical Performance

The Methuselah Factor and Aging

- Preliminary data suggests that diet and other lifestyle practices may have a role in slowing—or reversing—these age-related changes.

Simmonds MJ, Meiselman HJ, Baskurt OK. Blood rheology and aging. *J Geriatr Cardiol*. 2013 Sep;10(3):291-301.

As individuals age, the following changes tend to occur:

- **Fibrinogen levels rise**
- **Blood and plasma viscosity worsen**
- **Platelets become more prone toward clotting and inflammation**
- **Red cell deformability (a desirable quality that helps RBCS squeeze through small blood vessels) worsens**
- **RBCs have a greater tendency to aggregate or clump together**
- **Blood clots quicker at any given hematocrit**

Optimal Hemorheology Helps Prevent...

- Bone and Joint Problems
- Physical Aging
- **Suboptimal Physical Performance**

Correlations Between Poorer H-Factor Components and Poorer Athletic Performance

- Poorer RBC flexibility, poorer leg muscle strength.
- Worse plasma viscosity, worse aerobic capacity.
- Greater fat mass, worse RBC aggregability, poorer isometric handgrip strength.

Brun JF, Varlet-Marie E, et al. Clin Hemorheol Microcirc. 2011;49(1-4):207-14.
Bouix D, Peyreigne C, et al. Clin Hemorheol Microcirc. 1998 Nov;19(3):245-54.

No Matter Where You Stand....

Don't you want to do all you
can to help your blood
fluidity be as good as
possible?

— THE —
**METHUSELAH
FACTOR**

How to Live Sharper, Leaner, Longer,
and Better in 30 Days or Less

DAVID DEROSE

Longevity PLUS

Keys for Living Longer
and Better from the
Cutting-Edge Science
of Hemorheology



DAVID DEROSE, MD, MPH

“30 Days to Natural Diabetes and High Blood Pressure Control”

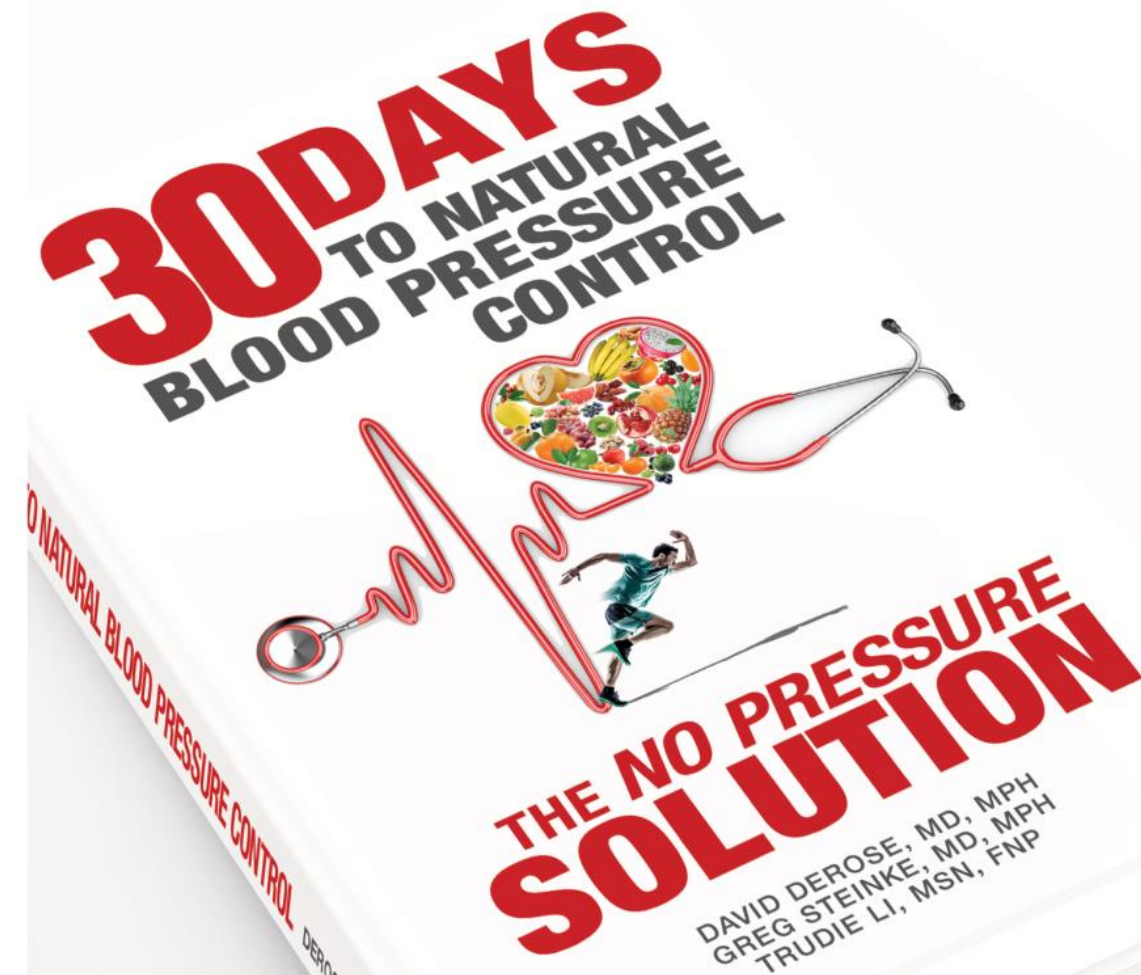


- Thirty, daily, approximately 6-minute videos
- Can be used with a live program, or be viewed on-line
- Free, accessed on the Facebook group of the same name or the “CompassHealth Consulting” YouTube channel

An Award-Winning Book

Winner of three national book awards

Most recently was one of four medalists (bronze medal) in the 2017 Reader's Favorite awards (Health-medical category)



Short Lecture

& BOOK SIGNING

David DeRose MD, MPH



30 Days to Natural Blood Pressure Control is the 2017 WINNER of the Reader's Favorite Bronze Medal in the Non-fiction, Health-Medical Category

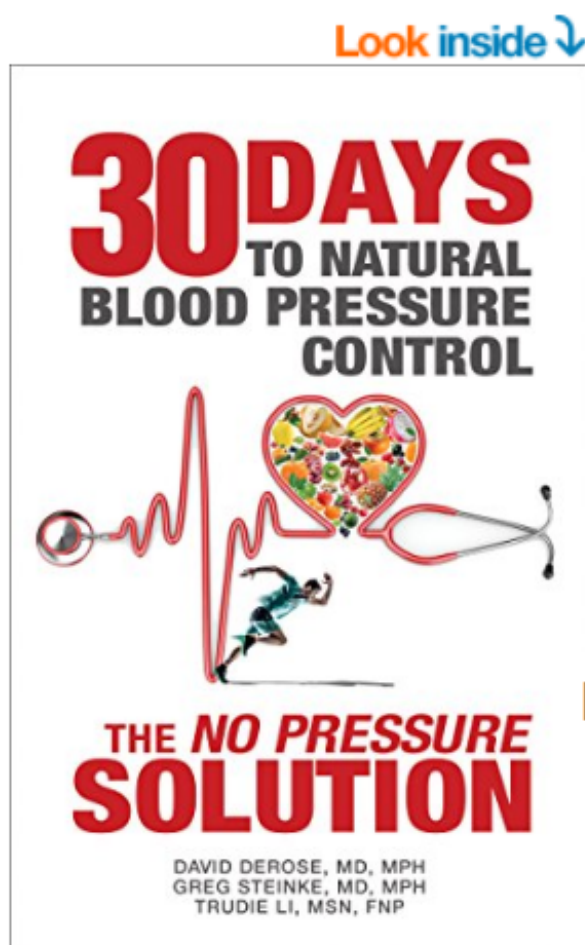
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FRIDAY
SEPTEMBER 15
2:30-4:30 PM



David DeRose, MD, MPH



Thirty Days to Natural Blood Pressure Control: The "No Pressure" Solution Kindle Edition

by David DeRose MD MPH (Author), Greg Steinke MD MPH (Author), Trudie Li MSN FNP (Author), Clifford Goldstein (Editor)

★★★★★ 45 customer reviews

See all 6 formats and editions

Kindle \$7.99 Read with Our Free App	Hardcover \$34.13 10 Used from \$26.62 17 New from \$28.15	Paperback \$17.08 14 Used from \$12.98 18 New from \$15.00	Audiobook \$0.00 Free with your Audible trial
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Product details

File Size: 26162 KB
Print Length: 442 pages
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Publication Date: August 2, 2016

**Amazon
Rankings
on Aug 2,
2018**

Amazon Best Sellers Rank: #50,348 Paid in Kindle Store (See Top 100 Paid in Kindle Store)

#3 in [Kindle Store](#) > [Kindle eBooks](#) > [Medical eBooks](#) > [Specialties](#) > **Preventive Medicine**

#4 in [Kindle Store](#) > [Kindle eBooks](#) > [Medical eBooks](#) > [Internal Medicine](#) > **Cardiology**

#11 in [Books](#) > [Medical Books](#) > [Medicine](#) > **Preventive Medicine**

#3 Best Seller in Kindle's Preventive Medicine

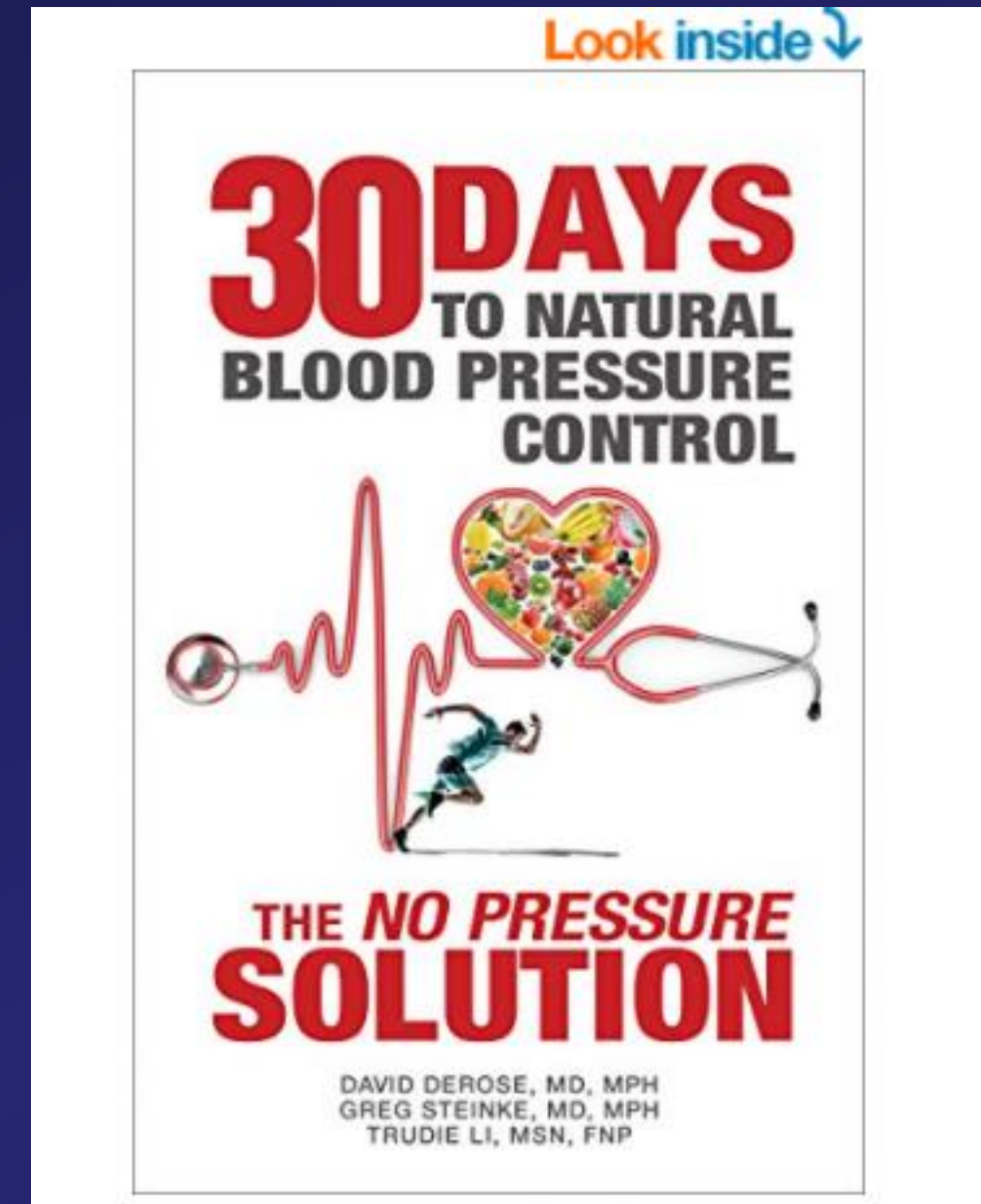
#4 Best Seller in Kindle's Cardiology Category

Take Home Messages

- Many of you here have helped give this book influence and visibility. (Thank you.)
- God has providentially brought the book to the attention of many other people.
- The world is longing for insights that Seventh-day Adventists have concerning disease reversal with natural therapies.
- Published medical resources can open doors for sharing spiritual truth with the world as well.

Take Home Messages

- God has blessed the book with influence
- However it is a battle out there
- The great controversy is real
- You can be help reach people with this resource
 - Write a review on Amazon
 - Use the book in outreach
 - Use our new free videos



www.compasshealth.net

Be Part of the Success Story...

Free Materials

Dr. DeRose's Free Materials Relating to High Blood Pressure

- Guidelines for hosting a "Lowering Blood Pressure Naturally" seminar in your workplace or community: [Seminar Guidelines](#)
- Free high blood pressure videos. Featuring Dr. David DeRose, these professionally recorded interviews are part of The Wellness Hour's extensive offerings. Access all four of them here: <http://www.compasshealth.net/hbp-videos/>

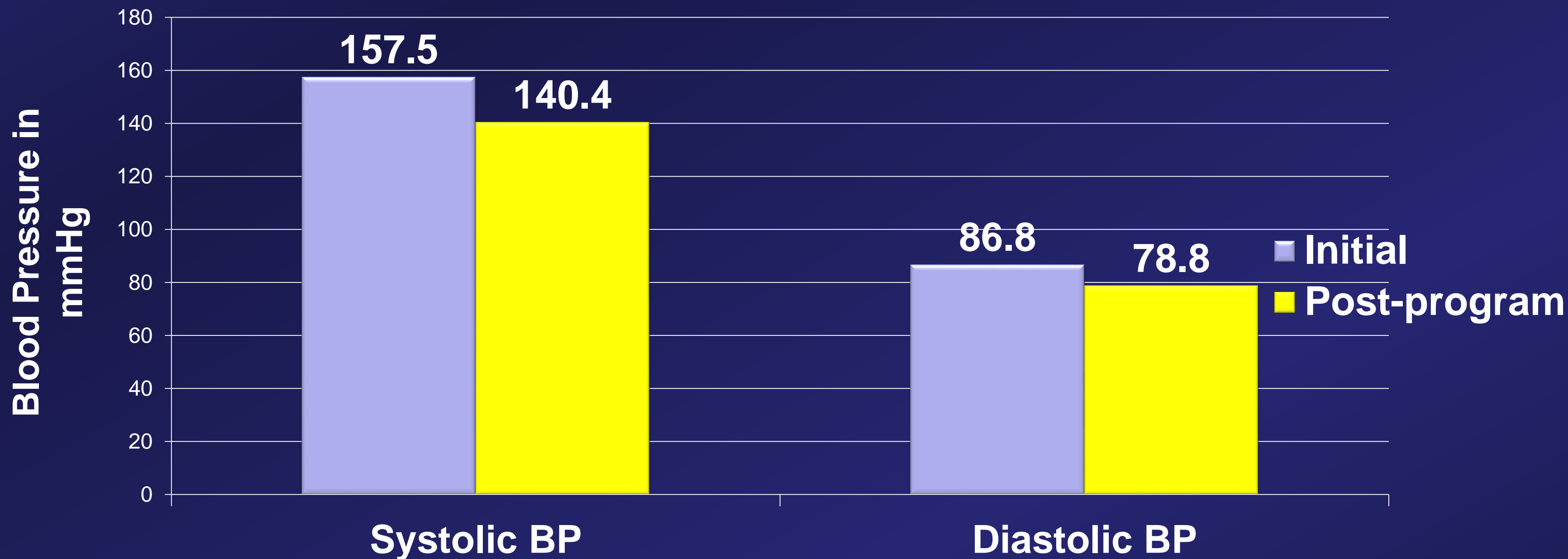


Does the “No Pressure” Approach Work?



So far we have limited experience with churches and community groups using the book in conjunction with accompanying DVD and, now, on-line resources to put on a 4 – 8 week program.

Data from Three Community Programs Using “Thirty Days to Natural Blood Pressure Control” and Related Videos (Participants with Baseline SBP ≥ 140 ; n = 25)



P < .001 for changes in both SBP and DBP

Free Resources

Free resources and information on the
CompassHealth website:

www.compasshealth.net

www.compasshealth.net/health-sabbath/



Free PowerPoint Slides and Scripts

www.compasshealth.net/health-sabbath/

The screenshot shows the website for Health Ministries, North American Division of Seventh-Day Adventists. The page is titled "HEALTH SABBATH : HEART HEALTH". It features a navigation menu with links to Home, About, AAFCN, CABL, Health Summit, Resources, Newsletter, News, Contact, and Store. The main content area is divided into two columns. The left column contains a "NADhealth Online Store" button and a logo for "ADVENTISTS InStep for Life". The right column contains the following text:

Welcome > Resources > Health Sabbath > [Share](#)

Heart Health Sabbath Presentations

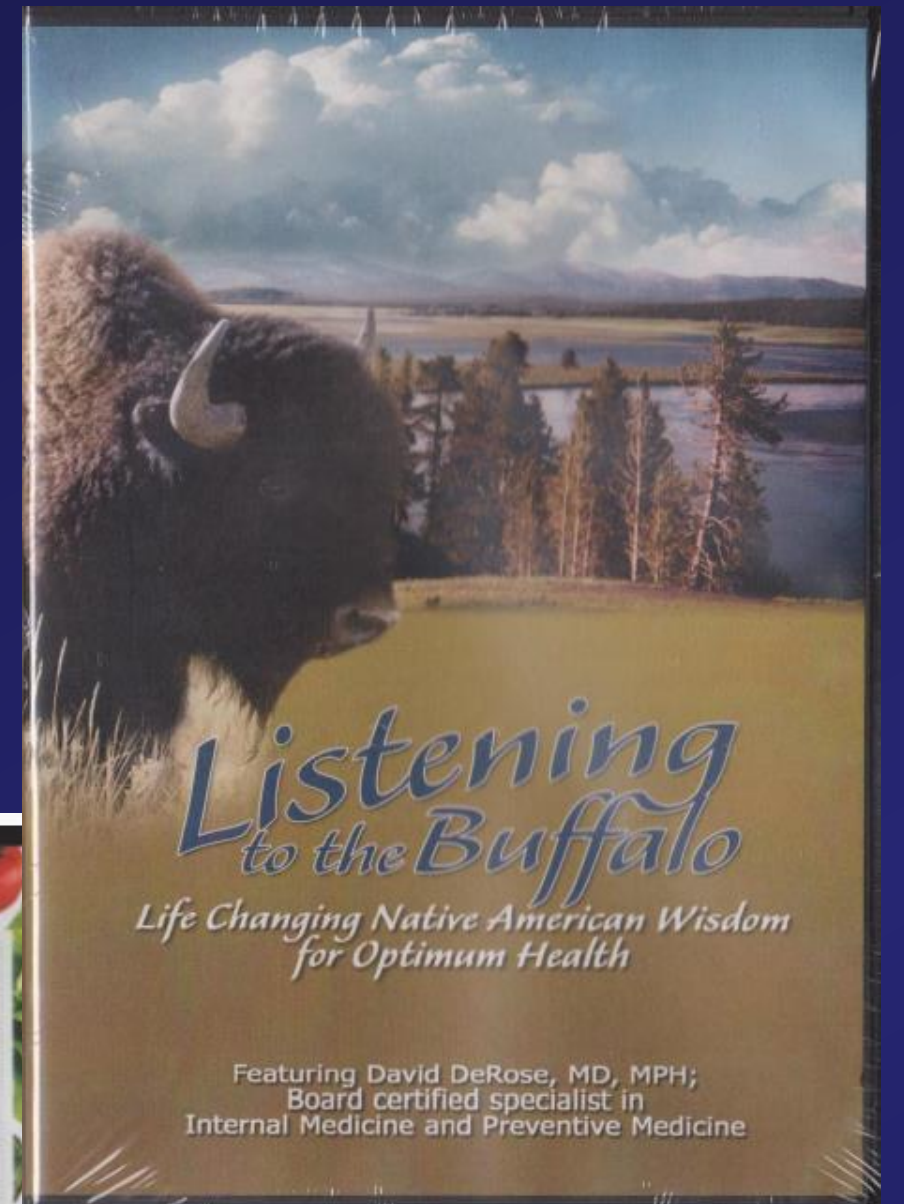
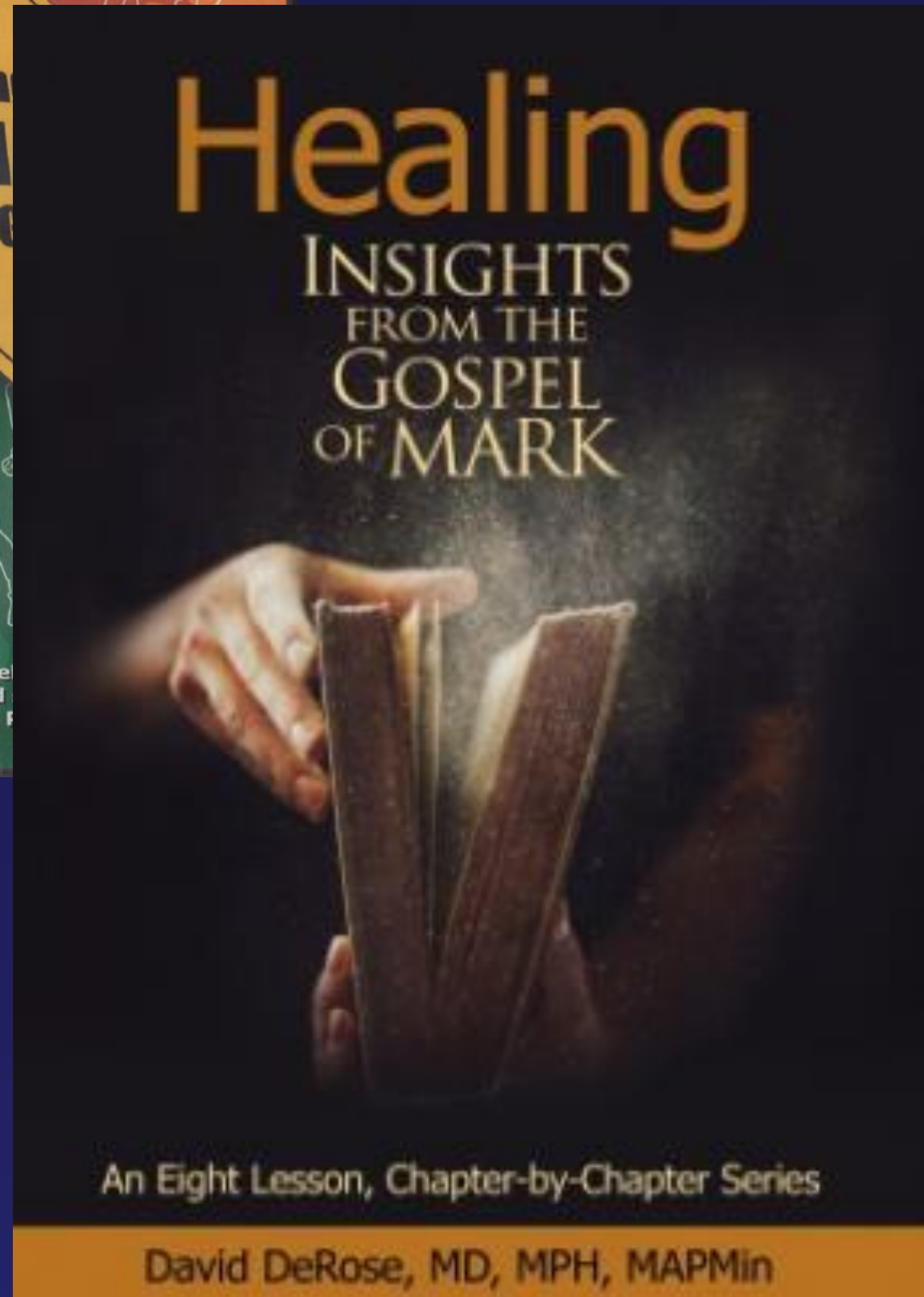
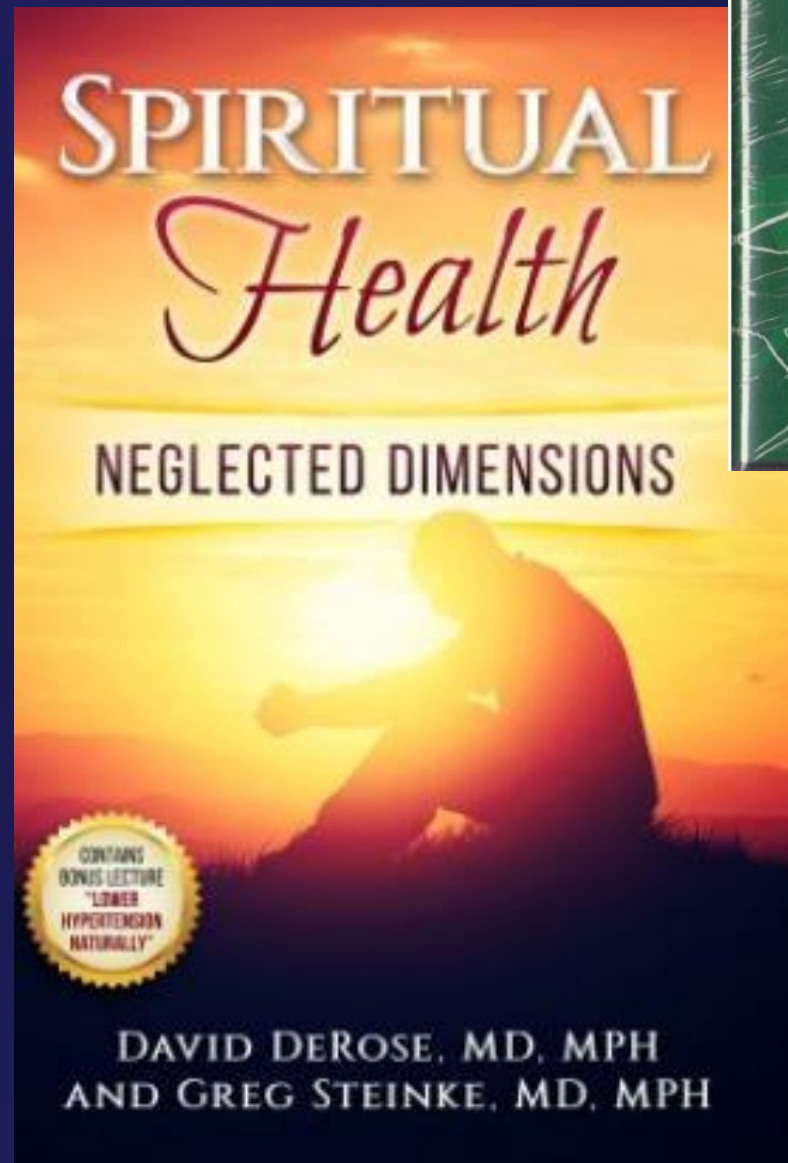
Download these resources to share during Health Sabbath at your church.

We wish to thank our contributors of the presentations and scripts: Dr. David DeRose, MD, Dr. Greg Steinke, MD, and Trudie Li, MSN, RN, FNP-BC.

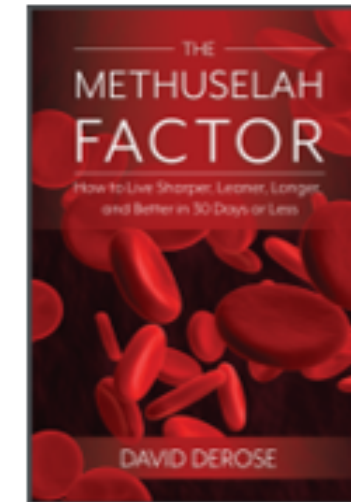
Sermon #1 - Timeless Prescriptions for Heart Health, Part 1
[Download PowerPoint](#) (pptx file)
[Download Script](#) (pdf file)

Sermon #2 - Timeless Prescriptions for Heart Health, Part 2
[Download PowerPoint](#) (pptx file)
[Download Script](#) (pdf file)

Afternoon Presentation - Natural Strategies for Reversing High Blood Pressure



Full details are found on the CompassHealth Website



Offer a “Methuselah Factor” Seminar to Your Community



Week Number	Days #	Featured Material	Instructions for Using DVD; Other Notes
1	1 - 7	<i>Longevity Plus</i> DVD Part 1	Show the first approx. 47:30 of Part 1 on the DVD. [47:27 time stamp] This will cover some of the highlights as to why hemorheology is important
2	8 - 14	<i>Longevity Plus</i> DVD, Parts 1 and 2	Show the remaining 13 minutes from Part 1; then show the first 31:30 of Part 2 [31:36 time stamp]. This will cover blood donation, beverages, and nutrition
3	15-21	Cooking Class [Emphasizing Beans and other plant foods]; on-line video	Alternately, you may show Part 1 of <i>Changing Bad Habits for Good</i> DVD Show on-line video, “Seek Spirituality” [Day 14 of YouTube series] and interact about the video If you are part of a faith community group that meets weekly, invite attendees to your place of worship
4	22-28	<i>Longevity Plus</i> DVD Part 2	Show the remaining 28 minutes of Part 2 of the <i>Longevity Plus</i> DVD Invite them to a “potluck” closing program the following week
5	29 - 30	On-line video [Day 30]	Discuss the short video Discuss other plans to stay connected as a group If appropriate, share the first part of “Healing Secrets from the Gospel of Mark”



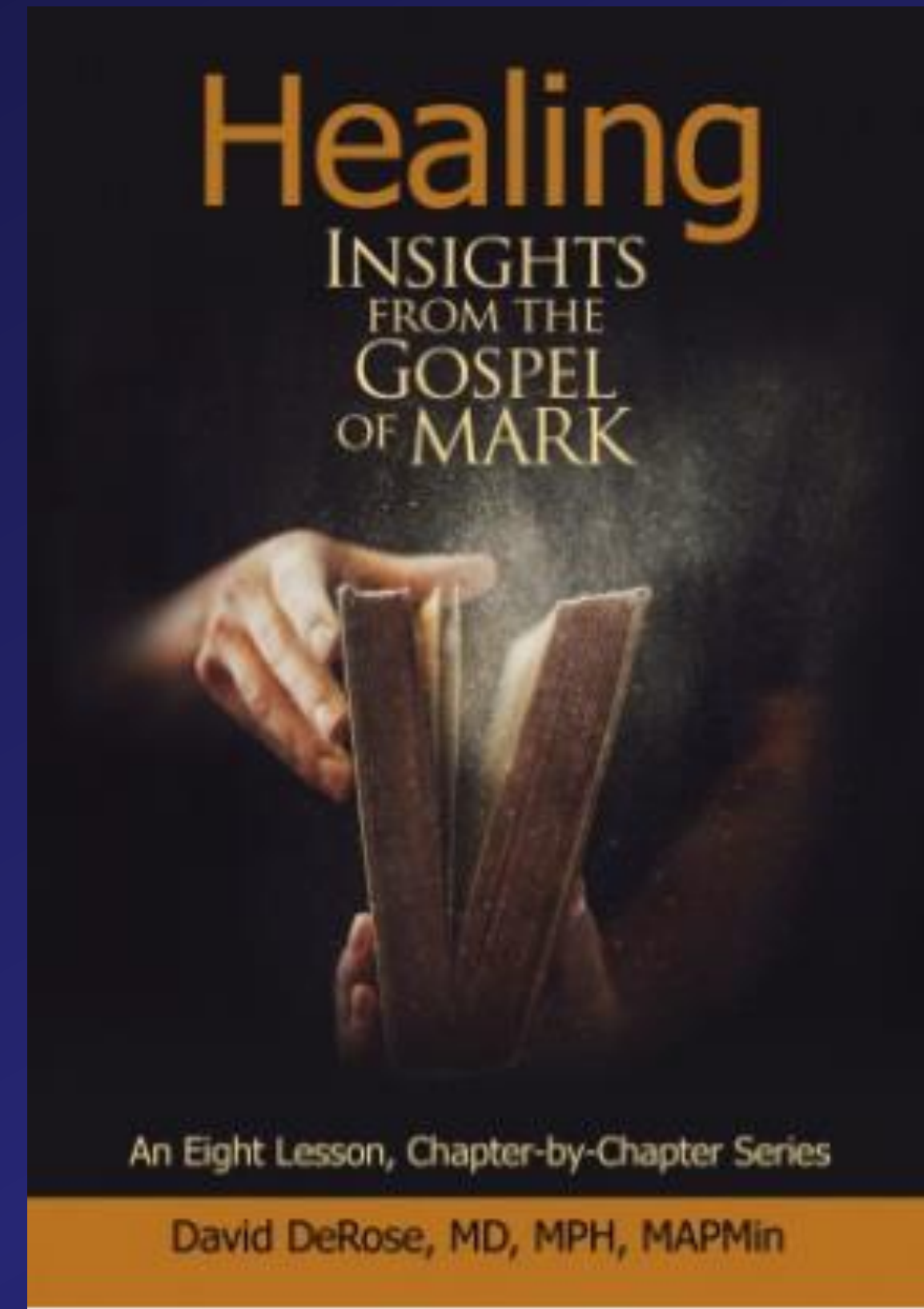
DAY 14: “SEEK SPIRITUALITY”

“30 Days to Natural Diabetes and
High Blood Pressure Control”
with David DeRose, MD, MPH

DAY 30: “SIGN UP FOR A MARATHON”

“30 Days to Natural Diabetes and High Blood Pressure Control”
with David DeRose, MD, MPH

Follow Up or Prayer Meeting



Testimony from an Adventist Pastor (posted on Amazon)

- “This is one of the best books that I have ever read to help transform my lifestyle. Although I was previously following several of the suggestions in the book, I decided to use this as a community outreach program in our city. We had dozens of individuals attend and I said that I would go through the 30 day program with them.”

Testimony from an Adventist Pastor (posted on Amazon)

- “I figured, 30 days isn't that long to try something. The truth is, in that short amount of time we had several within our group seeing their blood pressure either normalize or drop to close to normal ranges. Some dropped 50 points and have been completely taken off of their blood pressure medications.”

Testimony from an Adventist Pastor (posted on Amazon)

- “For myself, I am sleeping better and have seen my blood pressure normalize. This book is just an incredible resource. If you are suffering from high blood pressure I cannot express how useful this book will be to you or your community...”

Testimony from an SDA Health Professional

- “I just finished your book [*Thirty Days to Natural Blood Pressure Control*]. Wow- the beatitudes chapter is just incredible! Praise God. It was a real blessing to read. Much needed principles for both patients and clinicians alike. Have you thought about writing a book just devoted to this section on the beatitude principles?”

Testimony from an SDA Health Professional

- “Or even create a program with these principles as the foundation and have the health principles woven in? Truly, have not seen the beatitudes presented in such a practical, relevant way that gets at the core of our behavior change challenges.”

Ten Key Strategies to Improve Your Hemorheology

Ten strategies to help you achieve
optimal longevity and more...

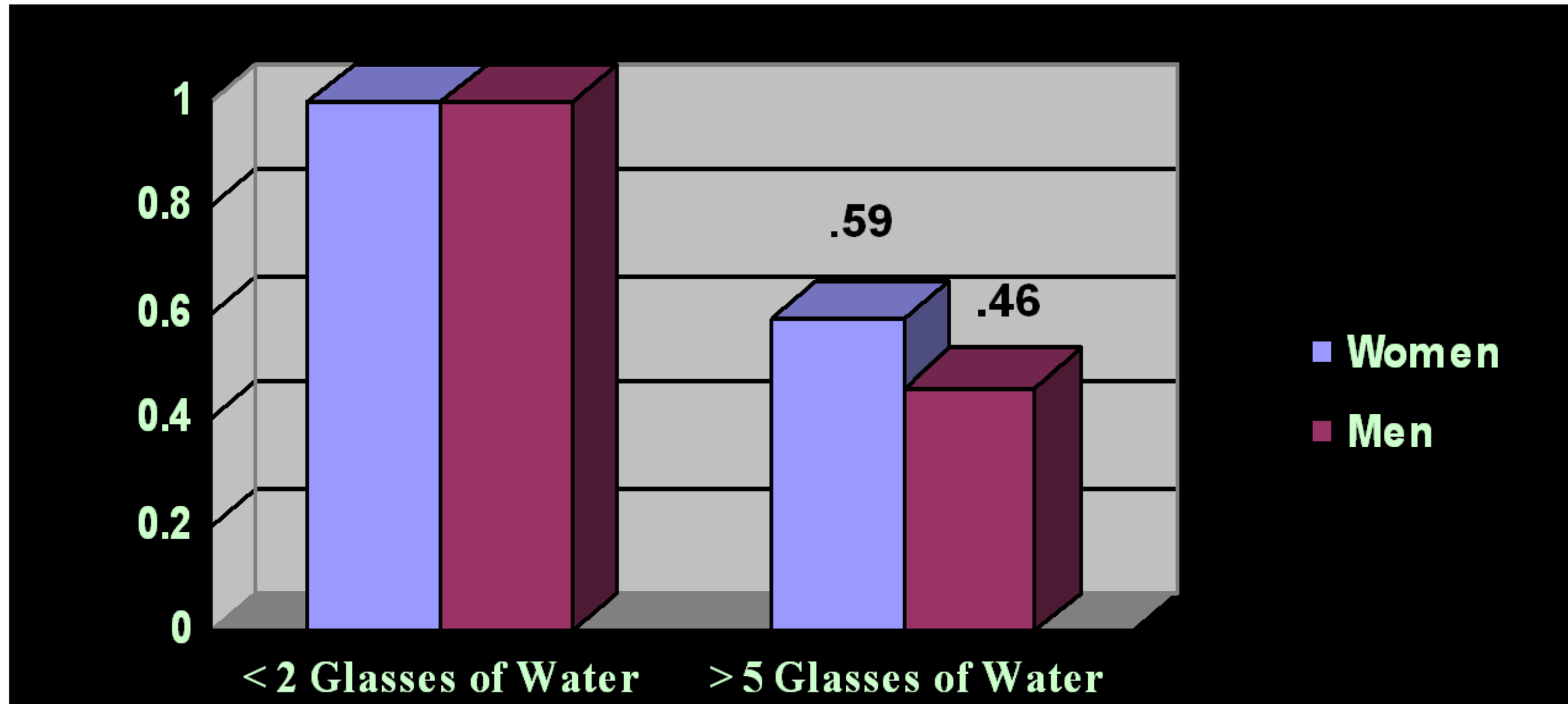
1. Donate Blood



2. Drink More Water



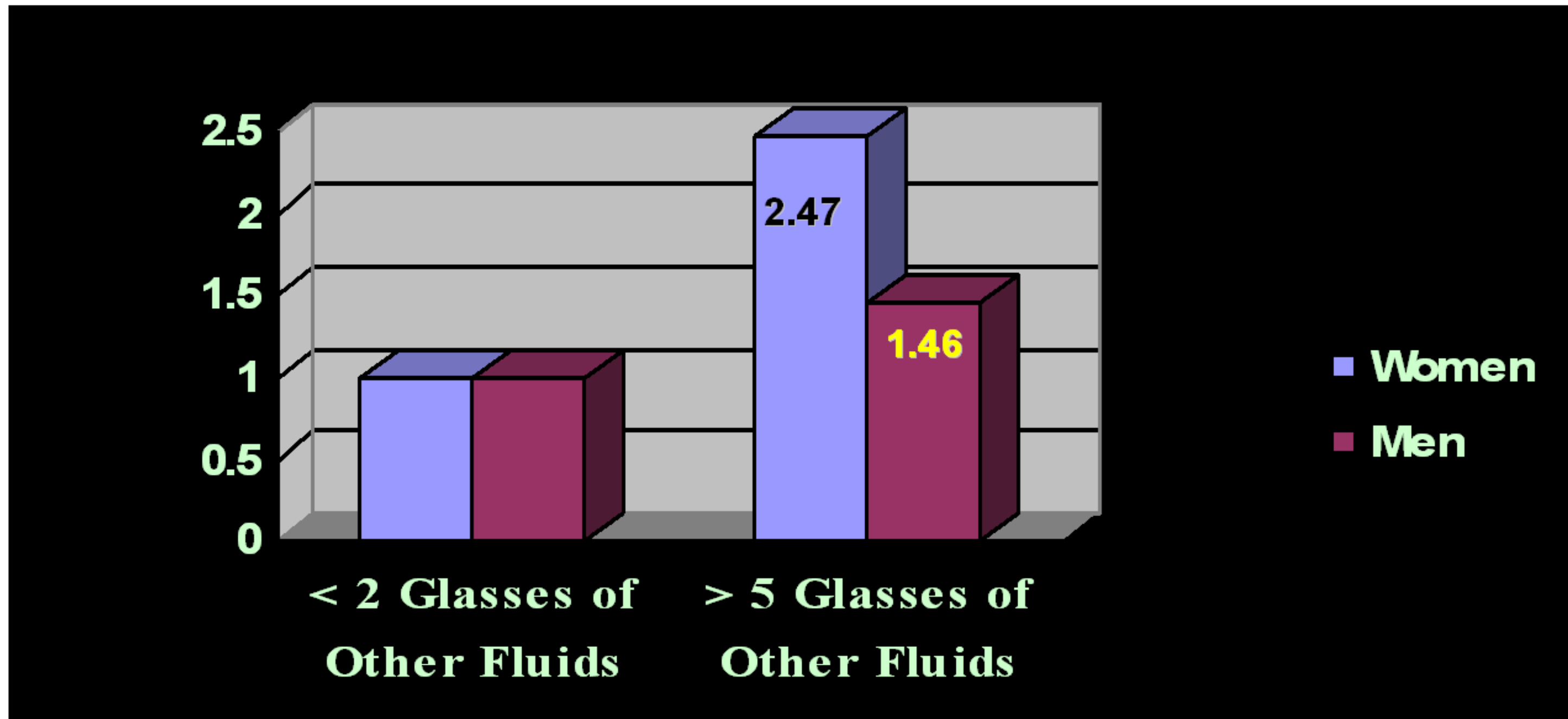
Daily Water Drinking and Relative Risk of Fatal Heart Disease



Chan J, et al. Water, other fluids, and fatal coronary heart disease: the Adventist Health Study. *Am J Epidemiol* 2002 May 1;155(9):827-33

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Daily Consumption of Fluids Other than Water and Risk of Fatal Heart Disease



Chan J, et al. Water, other fluids, and fatal coronary heart disease: the Adventist Health Study. Am J Epidemiol 2002 May 1;155(9):827-33

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Water for Weight Loss?

- Michael Boschmann and colleagues demonstrated that drinking a half liter of water raises metabolism 24% for one hour.
- In a carefully controlled study, they found that a similar amount of isoosmotic saline—or a minimal amount of water (50 ml)—had no such effect.

Boschmann M, et al. Water drinking induces thermogenesis through osmosensitive mechanisms. *The Journal of Clinical Endocrinology & Metabolism* 92(8):3334–3337

Other Conditions Potentially Helped By Drinking More Water

- Constipation
- Diabetic Complications
- High Blood Pressure
- Urinary Infections
- Kidney Stones
- Gallbladder Disease



How Much Water Should I Drink?



The Caffeine Trap

- Many have developed an affinity for caffeine-containing beverages
- Because caffeine acts as a diuretic, such caffeine-laden drinks may actually worsen hemorheology
- Caffeine, like all drugs, carries with it other side effects—some of which may further worsen hemorheology



Understanding Caffeine Physiology

- Caffeine is 99% absorbed from beverages.
- Probably the most important mechanism of caffeine action is the antagonism of adenosine receptors.

Chou T. Wake up and smell the coffee. Caffeine, coffee, and the medical consequences. West J Med. 1992 Nov;157(5):544-53.

Adenosine Receptors

- These receptors mediate an increase or a decrease in cellular concentrations of cyclic adenosine monophosphate.
- Adenosine receptors are found in the brain, heart and blood, respiratory tract, kidneys, adipose tissue, and gastrointestinal tract.

Chou T. Wake up and smell the coffee. Caffeine, coffee, and the medical consequences. West J Med. 1992 Nov;157(5):544-53.

Caffeine and Adenosine

Adenosine is a local vasodilator, reduces platelet aggregation, and inhibits catecholamines, renin release, and lipolysis.

Caffeine and Adenosine

Caffeine non-selectively blocks both adenosine receptors and competitively inhibits the action of adenosine. This, in turn, tends to:

- Make platelets more sticky
- Increase stress hormones
- Raise blood pressure

“Want To Live Longer? Drink Coffee” [Don’t Believe It]

- “Perhaps an even more amazing example of the connections between caffeine and bad habits came from a widely touted study published in *The New England Journal of Medicine*.”

Freedman ND, Park Y, et al. Association of coffee drinking with total and cause-specific mortality. *N Engl J Med*. 2012 May 17;366(20):1891-904.

“Want To Live Longer? Drink Coffee” [Don’t Believe It]

- “The lay take on this large study (with data initially coming from over 600,000 people), was that coffee drinking helped people live longer. As one related press release expressed it, ‘Want To Live Longer? Drink Coffee.’”

“Want To Live Longer? Drink Coffee” [Don’t Believe It]

- “But the data actually painted a very different picture. When the raw data was analyzed the researchers observed: ‘In age-adjusted analyses, coffee consumption was associated with increased mortality among both men and women.’”

“Want To Live Longer? Drink Coffee” [Don’t Believe It]

- “Expressed simply, the more coffee a person drank, the more likely he or she was to die at any given age.”

“Want To Live Longer? Drink Coffee” [Don’t Believe It]

- “However, here’s where the plot thickens. Coffee drinking just happened to be associated with most every bad habit that the researchers looked at. The more coffee someone drank the more likely he or she was to:”

“Want To Live Longer? Drink Coffee” [Don’t Believe It]

- Smoke cigarettes
- Drink more than three alcoholic beverages daily
- Eat more red meat
- Have lower educational attainments (complete less schooling)
- Neglect to engage in vigorous physical activity
- Consume fewer fruits and vegetables

What About Alcohol As A Beverage?



Some of the latest data...

April 7, 2011, *The British Medical Journal*

BMJ

RESEARCH

Alcohol attributable burden of incidence of cancer in eight European countries based on results from prospective cohort study

Schütze M, et al. BMJ. 2011 Apr 7;342

What Did the Researchers Have to Say?

“The cancer risk increases with every drink, so even moderate amounts of alcohol — such as a small drink each day — increases the risk of these cancers”

What Did the Researchers Have to Say?

- “even though light to moderate alcohol consumption might decrease the risk for cardiovascular disease, and mortality, the net effect is harmful.”
- “alcohol consumption should not be recommended to prevent cardiovascular disease or all-cause mortality.”

Michael Lauer, MD, and Paul Sorlie, PhD, of National Heart, Lung and Blood Institute in Bethesda, Maryland, have gone on record: "From a standpoint of cancer risk, the message of this report could not be clearer. There is no level of alcohol that can be considered safe."

Alcohol for Your Heart?

- “Since virtually all major alcoholic beverages are derived from plants, these beverages still have varying amounts of beneficial phytochemicals. Therefore, a person on a phytochemically-depleted diet (i.e., a person who does not eat many fresh fruits or vegetables) may get more heart benefit than harm from an occasional glass of wine.”

Alcohol for Your Heart?

- “However, when individuals eat a diet with plenty of plant foods, they get no added heart benefit from alcohol. This has been documented in the medical literature for over two decades, as testified to by the famous Oxford Vegetarian Study. When health-conscious vegetarians were evaluated as part of this study, drinking alcohol didn’t reduce their risk of heart disease death.”

Mann JI, Appleby PN, et al. Heart. 1997 Nov;78(5):450-5.

3. Eat More Plant Foods



4. Achieve and Maintain An Ideal Weight



5. Exercise Daily



6. Stop Smoking



7. Get Adequate Amounts of Vitamin D Year Round



8. Get Adequate Sleep Every Night



9. Make Dental Health A Priority



10. Control Stress

