The Methuselah Factor

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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

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…

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- **Coronary Artery Disease**
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- Cognitive Decline
Plasma Viscosity and Increased Heart Disease

Age adjusted odds of an ischemic heart event

Plasma viscosity quartile comparison

References include:
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…

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- Cognitive Decline
### Hemorheological Factors Connected to Cancer Risk

<table>
<thead>
<tr>
<th>Factor</th>
<th>Primary CA</th>
<th>Metastatic CA</th>
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<tbody>
<tr>
<td>Platelet Count</td>
<td></td>
<td>↑</td>
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<tr>
<td>Fibrinogen</td>
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<td>Thrombin</td>
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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

“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.”

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.

Hematocrit and Choice Response Time

Choice Response time in msec

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

Mental Health and the Methuselah Factor

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

Optimal Hemorheology Helps Prevent…

- Hypertension
- **Diabetes**
- Hypercholesterolemia
- Weight Gain
Optimal Hemorheology Helps Prevent…

- Hypertension
- Diabetes
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- **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

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

Preventing or Treating Scleroderma

Treating Lupus

Osteoarthritis and Circulation

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

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.

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.

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.

No Matter Where You Stand…

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

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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 Category
#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
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](http://www.compasshealth.net/hbp-videos/)
- 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/](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/
Full details are found on the CompassHealth Website
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


www.compasshealth.net
Daily Consumption of Fluids Other than Water and Risk of Fatal Heart Disease

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.

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.

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.
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*.”

“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*

Schütze M, et al. BMJ. 2011 Apr 7;342

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

Schütze M, et al. BMJ. 2011 Apr 7;342 and related press release
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.”

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