



SOCIETY OF  
ACTUARIES®

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MEETING  
& EXHIBIT

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Toronto, Canada

## Session 052: Munich Re Session Series Part 2: Voluntary Insurance and the Changing Workplace: An Outsider's Approach to the Changing Landscape

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# *Customer Engagement through Wellness Platforms.*

Presenter Name Dr. James Meschino DC, MS, ROHP

Date October 30, 2019



# Topics Covered in this Presentation

1. What is Wellness
2. Why need for Wellness Programs and Disease Stats
3. Do Wellness Programs Work
4. Desirable Features and Workflow of Effective Wellness Programs
5. Attainable Objective Outcomes of Nutrition and Lifestyle Medicine

# THE DEFINITION OF WELLNESS

Wellness is defined as “the daily active pursuit of an improved state of health or maintaining an optimal state of health and well being.”



# Why Wellness (Programs)?

Rob Hollingsworth (vice president and head of insurance sales for Manulife) told a recent advisor briefing, “**that while infectious diseases were the big risk factors 20 years ago, the biggest risks these days are lifestyle choices**”

<https://insurance-journal.ca/article/manulife-launches-vitality-in-canada/> (sept 27, 2016)

Compelling evidence has prompted insurance companies and US group benefit plan sponsors to reward consumers and employees/plan members, respectively, who actively engage in wellness behaviours to improve their health profile.

# Why Wellness (Programs)?

- Traditional Medicine alone not sufficient to achieve optimal health outcomes
- Evidence-based proactive, health-promoting behaviours (wellness) complement traditional medical care, regarding disease prevention and management

# Modern Disease Are Lifestyle Diseases

**Cancer** – 70-90% preventable via diet and lifestyle (Breast, Prostate, Colon, Lung, Skin)

**Heart Disease, Stroke & Related Vascular Disease** – most risk factors diet & lifestyle

**Alzheimer's Disease** – only 2% genetic. Caused primarily by how we allow the brain to age and atrophy – preventable

**Diabetes** – 80% of adult onset diabetes caused by overweight and lack of fitness – and can be reversed via diet and exercise

**Osteoporosis** – 1:4 women; 1:8 men over the age of 50 develop this condition – mostly due to faulty diet and sedentary lifestyle

# Cancer

Journal of National Cancer Institute 1996

*\*(Willett, W. Estimates of cancer deaths avoidable by dietary change. J National Cancer Instit.1996; 86,14:948)*

***In Total – 70-90% of cancer shown to be preventable***

Type of Cancer	Percent avoidable		
	Doll-Peto (1981)	Willett (1994)	Range (1994)
Lung	20	20	10-30
Colon/Rectum	90	70	50-80
Breast	50	50	20-80
Prostate	<i>(with other)</i>	75	20-80
Pancreas	50	50	10-50
Stomach	35	35	30-70
Endometrium	50	50	50-80
Gall bladder	50	50	50-80
Larynx, bladder, cervix, mouth, pharynx, esophagus	20	20	10-30
Other	10	10	-
<b>Overall estimate</b>	<b>35</b>	<b>32</b>	<b>20-42</b>

# Type 2 Diabetes In Canada

- More than 9 million Canadians live with diabetes or prediabetes
- Approximately 90% diabetics have type 2 diabetes. In 80% of cases the individual is over weight at time of diagnosis
- Incidence of type 2 diabetes is increasing dramatically due to a various factors:
  - The population is aging
  - Obesity rates are rising
  - Canadian lifestyles are increasingly sedentary
- Almost 80% of new Canadians come from populations that are at higher risk for type 2 diabetes. These include people of Aboriginal, Hispanic, Asian, South Asian or African descent

# Health Complications From Diabetes

- Heart attack – 80% die from heart attack or stroke. Blood sugar lowering drugs do not prevent heart attacks and strokes (Medscape, Oct 5, 2016 (Big Fat Fix Challenges Mediterranean Diet <http://www.medscape.com/viewarticle/869636>)
- Kidney failure
- Vision loss – macular degeneration
- Increased Cancer Risk (and poor prognosis if cancer develops)
- Compromised immunity (infections and cancer)
- Amputation due to gangrene (from reduced blood flow)

# Lifestyle is Key Type 2 Diabetes Prevention and Reversal

- In a large study, people at risk of type 2 diabetes were able to reduce their risk by 58% by exercising moderately for 30 minutes a day and by losing 5 to 7% of their body weight
- In people age 60 and older, the risk was cut by almost 71%. Other large studies have shown similar results in reducing risk

Reference: Canadian Diabetes Association (<http://www.diabetes.ca/diabetes-and-you/what/prevalence/>)

- Drugs and Standard Medical Care don't prevent diabetes, nor are they sufficient by themselves to reduce morbidity and mortality related to diabetes
- Nathan Pritikin was first researcher to show (in the 1970's) that many cases of type 2 diabetes could be reversed through diet and lifestyle alone, including reductions in lipid, glucose and blood pressure

For every \$1.00 spent on wellness programs: Medical costs fall by about \$3.27

Absenteeism costs fall by about \$2.73

Harvard University - Health  
Affairs, February 2010 USD

Wellness programs save about 1.5 to 1.7 days in absenteeism per worker over 12 months, or an estimated \$251 per employee per year in savings.

Sun Life-Ivey Canadian  
Wellness ROI study meta-  
analysis, 2012

# Some Features of Effective Wellness Platforms

1. High Level Engagement and Motivation
2. Personalized Health and Lifestyle Management Platform
3. Increased Health Literacy
4. Aggregate Reporting for C-suite or Plan Sponsor
5. Communication Platform

# Typical Wellness Platform Workflow

1. **Health Risk Assessment** (including Mental Health Check-Up)
2. **Feedback Report** – personalized wellness strategies to help lower disease risk factors and complement disease management of existing health conditions (**and Aggregate Report for Sponsor**)
3. **Goal Setting** (weight, cholesterol, blood pressure, smoking etc.)
4. **Tracking and Monitoring** – tools and API synch with wearables and apps
5. **On-going Engagement** via in-app, email and push notifications, based on user activity and participation
6. **Other Features of Importance**

# 1. Health Risk Assessment

The screenshot displays the 'My Wellness Wallet' interface for a user named Jim Meschino. The top navigation bar includes the ESCHINO logo, a 'BACK' button, and the user's profile with 'OPTIMAL LIVING Program' and '14855 points'. The main header shows 'My Wellness Wallet' with 'Bio Age 60' and 'MHR Score 87', along with a 'NEXT' button. A secondary navigation bar lists 'Dashboard', 'My HRA', 'My Wellness Report', 'Create My Wellness Plan', 'My Wellness Planner', 'Trackers & Resources', and 'Dr. Meschino's Research Reviews'. The left sidebar contains various menu items such as 'My Wellness Wallet', 'MW Recognition Badges', 'About Dr. Meschino', 'Learn & Earn', 'Dr. Meschino's Research Reviews', 'Calendar', 'Site Administration', 'Reports', 'Content Management', 'Privacy Statement', and 'Engagement'. The main content area is titled 'Health Risk Assessment (HRA)' and includes a message: 'You can pause and return to complete the HRA, however, you must complete the entire HRA before it can be processed'. Below this is the 'Additional Screening' section with three questions: 202. 'Have you ever had an allergic reaction to a vitamin supplement in the past?' (No selected), 203. 'Do you suffer from a hemolytic anemia due to glucose-6 phosphate dehydrogenase deficiency?' (No selected), and 204. 'Do you suffer from kidney failure or are you currently receiving dialysis treatment?' (No selected). Question 205, 'Do you have Wilson's disease?', is partially visible. A 'Questions?' chat bubble is present in the bottom right, and 'Back' and 'Finish' buttons are at the bottom of the form area.

# Aggregate Reports: Some Examples

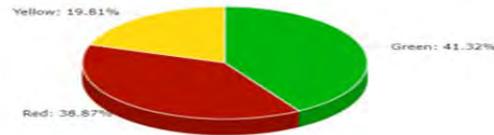
- Steps
- Blood Pressure
- Blood Glucose
- Cholesterol
- Overweight
- Asthma
- Stress
- Mood
- Gout
- Diabetes
- Smoking
- Alcohol

# Aggregate Report Blood Pressure



## Blood Pressure Report for Meschino

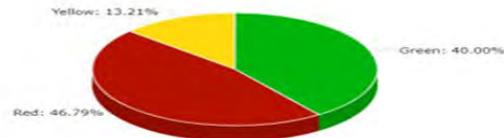
Blood Pressure Risk Overall Status



BLOOD PRESSURE LEVEL

<span style="color: green;">●</span>	<120 Systolic <80 Diastolic
<span style="color: yellow;">●</span>	120 - 139 Diastolic 80 - 89 Diastolic
<span style="color: red;">●</span>	≥140 Systolic ≥90 Diastolic

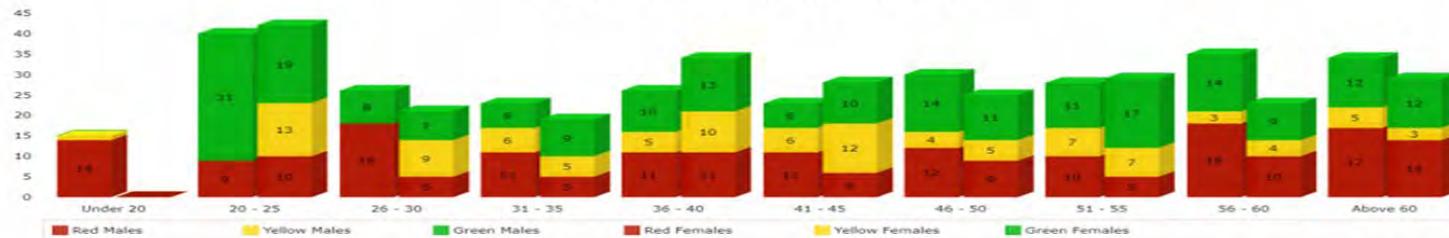
Blood Pressure Risk In Males



Blood Pressure Risk In Females



Blood Pressure Status by Age Group



# 2. Feedback Report

**OPTIMAL LIVING Program**  
Free eBook

Jim Meschino  
14855 points

**BACK**

## My Wellness Wallet

Bio Age **60** MHR Score **87** **NEXT**

Dashboard My HRA My Wellness Report Create My Wellness Plan My Wellness Planner Trackers & Resources Dr. Meschino's Research Reviews

Your Report Completed: Aug 30, 2019

**60**  
Bio Age  
what is this?

**87**  
MHR Score   
what is this?

**Congratulations Jim,**

You have completed your HRA. Based on the answers you have provided we have generated a comprehensive personal report. You can Review your report by selecting any of the following categories.



VIDEO

**My Health Risk Considerations / Risk Factors**

- Dietary Assessment
- Body Composition
- Physical Activity
- Basic Supplement Considerations
- Nutrient Deficiencies and Depletion of Nutrients
- Drug-Nutrient Interactions and Precautions
- Healthy Aging Supplement Considerations and Early Detection
- Basic Blood Tests of Significance

**My Health Issues**

- Diverticular Disease
- High Cholesterol
- High LDL-Cholesterol
- Osteoporosis/Osteopenia
- Restless Leg Syndrome
- Vaccinations
- Mental Wellbeing: Anxiety
- Mental Wellbeing: Depression
- Mental Wellbeing: Stress
- Family History of Alzheimer's Disease

**Questions?**

Please leave a message and we will ...



# Dietary Feedback

## Your Personal Feedback Report

Based upon your responses to the Dietary Assessment portion of the questionnaire, your usual dietary practices have been rated as follows: **19.00**. Refer to the chart below to see your position on the dietary patterns scale.



In addition to providing you with personalized feedback related to your dietary practices, if you are interested in maintaining, gaining or losing weight, Meschino Health & Wellness is pleased to provide you with a tool that helps you calculate your daily calorie intake and the total calories burned by exercise. Click on the following link to view or use the tool:

In your case, some of the noteworthy areas of your present dietary patterns include:

**Your frequent consumption of whole eggs is of some concern.** One egg yolk contains approximately 250 mg of cholesterol, which can contribute to elevated blood cholesterol levels. Excess cholesterol in the bloodstream can narrow arteries and contribute to heart attack, stroke and other vascular diseases. Anti-aging experts suggest that you limit your total daily cholesterol consumption to no more than 150-200 mg per day.

**Your frequent intake of fried foods is of some concern.** Fried foods contribute excessive fat calories to the diet, which promote weight gain, vascular disease and may increase risk of colon and other cancers.

**It is impressive that you have maintained a low intake of high fat pastries and related treats.** The fat content of these foods significantly contributes to weight gain and depending upon the type of fat present, can increase blood cholesterol levels, which is a key risk factor for heart attack, stroke and other vascular diseases. These high fat foods are linked to increased risk of colon cancer and possibly other cancers.

**It is impressive that you have maintained a low intake of fried snack foods and regular chocolate products.** Fried snack foods contribute excessive fat calories to the diet, which promote weight gain and increase risk of colon and other cancers. Regular chocolate bars and chocolate products are a rich source of saturated fat, which can elevate blood cholesterol levels, increasing risk of heart attack, stroke and other vascular diseases. Saturated fat intake also contributes to weight gain and is linked to colon cancer and reproductive organ cancers.

### Questions?

Please leave a message and we will ...



# Diverticular Disease: Nutrition & Lifestyle Adjunctive Management

[Back to My Health Issues](#)

## Diverticular Disease

Description

Nutrition

Supplements

Other Considerations

### Diverticular Disease



You indicated that you have diverticulitis, diverticulosis or diverticular disease.

**Diverticulosis** is a term used to describe the presence of colonic diverticula, small sac-like outpouching of mucosal and submucosal layers of the colonic wall. Diverticular disease is a term used to include diverticulosis and diverticulitis. When one or more of these pouches become inflamed or infected, the condition is called diverticulitis. This is uncommon before the age of 40 and increases in incidence after that age (10% of the population over 40 are found to have diverticulosis, but not all of these cases lead to diverticulitis).

#### Symptoms of Diverticulitis:

1. Bleeding from the bowel (variable amounts)
2. Bloating
3. Abdominal pain/cramping after meals usually in the left lower abdomen
4. Changes in bowel movements (diarrhea or constipation).
5. Sometimes, symptoms include nonspecific chronic discomfort in the lower left abdomen

The two most common and well-recognized complications of diverticular disease are acute episodes of bleeding and diverticulitis.

**Reference:** Boynton W, Floch M. New strategies for the management of diverticular disease: insights for the clinician. *Therap Adv Gastroenterol* 2013 6(3):205-21  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3625022/>

Most people who have diverticulosis do not have any symptoms. When diverticulosis causes symptoms, it is called diverticular disease. As noted above symptoms can include constipation, cramps, bloating, and painless bleeding from the rectum. Diverticular disease also includes diverticulitis.

Diverticulitis occurs when diverticula become inflamed or infected. Symptoms include abdominal pain (usually on the left side), fever, nausea, vomiting, cramps, and constipation. Possible complications include

Downloads

Video

Articles

Questions?

Please leave a message and we will ...

## Nutrition

### Nutrition-

#### Prevention:

- Eating foods high in fiber can help prevent constipation and may decrease the risk of developing diverticulosis. High-fiber foods include whole grains and fresh fruits and vegetables.
- For many years, doctors recommended that patients with diverticulosis and diverticular disease avoid eating nuts, popcorn, and seeds. Eating these foods was thought to cause symptoms and lead to diverticulitis. A study published in the August 27, 2008, issue of *JAMA*, however, showed that this is not the case. The study found that eating nuts, corn, and popcorn do not increase the risk of diverticulitis or diverticular bleeding.

#### Managing Chronic Diverticular Disease:

- **Fiber**

The National Diverticulitis Study Group (NDSG) has made a level 1 recommendation for dietary fiber greater than 10 g/d and preferably between 20 and 30 g/d for all patients with diverticular disease except for those suffering from an acute attack.

The effectiveness of fiber for managing chronic diverticular disease symptoms still needs to be confirmed with high quality randomized clinical trials.

- **Anticholinergic/Antispasmodic agents**

The rationale for using anticholinergic and antispasmodic agents is based on the observed hypermotility of the sigmoid colon in many patients with symptomatic disease [Bassotti *et al.* 2004].

Patients with diverticulosis were found to have higher resting, post-meal pressures in the colon compared with controls [Huizinga *et al.* 1999].

Altered motility (movement of contents through the gut) is thought to contribute to symptoms of chronic diverticular disease although the definite correlation is yet to be established.

- **Non- absorbable Antibiotic:**

Rifaximin is a poorly absorbed antibiotic used for hepatic encephalopathy and traveler's diarrhea in the United States. It is effective against Gram-positive and Gram-negative bacteria and has high bioavailability in the gastrointestinal tract.

It has been shown that rifaximin could be useful in irritable bowel syndrome and small bowel bacterial overgrowth by reducing bloating, abdominal pain, flatulence and loose stools

- **Anti-inflammatory agent: Mesalamine**

Mesalamine has been investigated in multiple studies as a single agent to achieve and to maintain remission. Studies suggest that mesalamine is not only effective in achieving remission but also in maintaining remission in patients with recurrent symptomatic diverticular disease if given continuously.

### Questions?

Please leave a message and we will ...

# Diverticular Disease

Description

Nutrition

Supplements

Other Considerations

## Supplements

### Supplements:

#### 1. Probiotics

Probiotic supplementation involves the ingestion of live, friendly bacteria to help populate the large intestine and crowd out the unfriendly bacteria and other undesirable microbes. Probiotics have been used in the management of various colonic conditions including constipation, diarrhea, bloating, *Clostridium difficile* colitis, irritable bowel syndrome, inflammatory bowel disease and diverticulitis. The rationale for the use of probiotics is based on the theory that the intestinal microflora plays a crucial role in the prevention and development of these disorders [Quigley, 2007].

The use of probiotics helps restore the normal intestinal flora that may have been altered in diverticular disease due to stasis and reduced colonic transit time. There are few data available about the use of probiotics in diverticular disease. Most studies were small and uncontrolled. In one prospective open trial by Fric and Zarovral, *Escherichia coli* strain Nissle 1917 was administered to 15 patients with uncomplicated diverticular disease. These patients had longer periods of remission and improved abdominal symptoms after receiving probiotic compared to before treatment. [Fric and Zarovral, 2003].

## Description

## Nutrition

## Supplements

## Other Considerations

### Other Considerations

#### Other Considerations

##### Risk Factors for Diverticular Disease

- **Low Fiber Diet** – debate still exists, but still considered good evidence, as higher fiber intake linked to fewer hospital admissions for diverticulosis and diverticulitis. The exact pathogenesis of diverticular disease of the sigmoid colon is not well established. However, the hypothesis that a low-fiber diet may result in diverticulosis and a high-fiber diet will prevent symptoms or complications of diverticular disease is widely accepted. (C, Daniels L, Vrouenraets BC, Boermeester MA. A systematic review of high-fiber therapy in diverticular disease. Int J Colorectal Dis. 2012 4:419-427 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3308000/> )
- **Family History** – 3x greater incidence if sibling with diverticular disease compared to the general population
- **Smoking** – dose-dependent relationship
- **Obesity** – increases risk by 80%
- **Lack of Physical Activity** – Physical activity reduces risk by 25%
- Nuts, corn, and popcorn intake **are not** associated with an increased risk of diverticulitis

**Reference:** [JAMA Patient Page: Diverticulosis and Diverticulitis](#)

<https://jamanetwork.com/journals/jama/fullarticle/2552211>

##### Risk Factors Continued:

- **Aging** - The strong association of age with the presence of diverticular disease argues for the important role of the aging process in the disease. Aging causes an increase in collagen in the colonic wall, with a concomitant reduction in tensile strength, that makes herniation more likely. Slower motility results in higher colonic water reabsorption and harder feces, which causes excessive straining and higher intraluminal pressure.
- Another factor in aging that makes herniation more likely is the reduction in the number of neurons containing nitric oxide in the intestinal nerve plexus. These nerve cells play an important role in the relaxation of the muscular coat within the wall of the intestine. These reflexes control muscular contraction to propel food through the gastrointestinal tract, and colonic receptive relaxation is important in allowing for expansion to mass with lower intraluminal pressure. In addition, the residual nitric oxide-containing neurons may be less functional.

##### Risk Factors Continued:

- **Chronic Use of Laxatives** - Chronic use of laxatives over a long period of time can damage the colon, a condition gastroenterologists have dubbed the “cathartic colon”, making it more susceptible to diverticular disease and other gastrointestinal disorders.
- **Irritable Bowel Syndrome (IBS)** - In addition to being important for a differential diagnosis, IBS appears to significantly increase the risk of diverticular disease. A 2009 cross-sectional survey reported that subjects with IBS were much more likely to have diverticulosis than were subjects without IBS, and subjects aged 65 and older with IBS had a nine-fold increased risk of diverticulosis. Although the reason for the association is unclear, the authors suggested several possible mechanisms. Noting the higher risk in older individuals, they posited that IBS may act in conjunction with the aging-related changes in smooth muscle and neurons to promote the development of diverticular disease.

#### Questions?

Please leave a message and we will ...

# 3. Goal Setting Based on Risk Factor Assessment

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**BACK** **My Wellness Wallet** **Bio Age 60 MHR Score 87** **NEXT**

Dashboard My HRA My Wellness Report Create My Wellness Plan My Wellness Planner Trackers & Resources Dr. Meschino's Research Reviews

### Major Health Risks

- Physical Activity
- Overweight
- Blood Pressure
- Cholesterol
- Blood Glucose
- Blood Glucose Level Unknown
- Blood Pressure Level Unknown
- Cholesterol Level Unknown
- P3 Genetic Testing
- Stress
- Diabetes Type 2
- Smoking
- Alcohol Consumption
- Medication Adherence

### Endurance Exercise



You indicated that you perform endurance/aerobic exercise for 119 minutes or less per week, on average. This is somewhat below the amount of endurance/aerobic exercise required for reducing risk of m... [See More](#)

HRA  
8/12/2019 10:41:55 AM

### Resistance Exercise



You indicated that you regularly perform resistance or strength training 3 times a week. This is a very effective way to maintain and improve your muscle tone, raise your resting metabolic rate, keep... [See More](#)

HRA  
8/12/2019 10:41:55 AM

### Recommended Goals

 Increase Aerobic Activity

[Set Goal](#) 

### Questions?

Please leave a message and we will ...

## Major Health Risks

Physical Activity

Overweight

Blood Pressure

Cholesterol

Blood Glucose

Blood Glucose Level Unknown

Blood Pressure Level Unknown

Cholesterol Level Unknown

P3 Genetic Testing

Stress

Diabetes Type 2

Smoking

Alcohol Consumption

Medication Adherence

## Cholesterol



You indicated that you have been diagnosed with high cholesterol. High Cholesterol is a cardinal risk factor for stroke, heart attacks and other cardiovascular diseases. Many experts suggest that th... [See More](#)

HRA

8/12/2019 10:41:55 AM

## Recommended Goals



Lower your Cholesterol level

## Questions?

Please leave a message and we will ...

[View Goal](#)





Back

### Lower your Cholesterol level Active



Current Status  
0.00  
mmol/L  
●

Goal  
3.90 - 5.20  
mmol/L  
●

Days Left  
0

Points Available  
300

#### Lower your Cholesterol level

Instructions

First Steps...

Why Recommended

Tracking Tools

Learn & Earns

Apps & Wearables

Essential Resources

Videos

Your goal should be to improve your Cholesterol level by at least one level. If your current status is red, then you should strive to achieve yellow. If your current status is yellow, then you should strive to achieve a status of green.

The number of days you have to complete this goal appears on your active goal page and in the list view of "My Wellness Planner". The days will count down to 0 days, at which time your goal will be validated by checking the most recent value entered in the Cholesterol Tracker. If the most recent value entered in the Cholesterol Tracker falls into the range of your set goal, then you will have achieved your goal and points will be added to your account. A link to the Cholesterol Tracker can be found in the Tracking Tools section of the Active Goal Page.

- Be sure to activate all recommended goals to lower your Cholesterol levels

You can also record and validate your Cholesterol levels with Apple Healthkit or any smart app that syncs with Meschino Wellness. All Tracking Tools and Resources can also be found on the *Health Resources* tab of your Wellness Wallet

#### TOTAL CHOLESTEROL LEVELS

<span style="color: green;">●</span>	< 150 mg/dl
	< 3.9 mmol/L
<span style="color: yellow;">●</span>	150 – 200 mg/dl
	3.9 – 5.2 mmol/L
<span style="color: red;">●</span>	≥ 201 mg/dl



# 4. Track and Monitor Goals

**OPTIMAL LIVING Program**  
Free eBook

Jim Meschino ▾  
14855 points

BACK

## My Wellness Wallet

Bio Age 60 MHR Score 87

NEXT

Dashboard My HRA My Wellness Report Create My Wellness Plan My Wellness Planner Trackers & Resources Dr. Meschino's Research Reviews

### My Recommended Goals

### My Set Goals

### My Achieved Goals

Goals	Current Status	Goal	Days Left	Goal Date	Points	Actions
 Lower your Cholesterol level			90	12/23/2019	300	<a href="#">VIEW</a> <a href="#">Delete</a>
 Lower your Blood Glucose level			90	12/23/2019	300	<a href="#">VIEW</a> <a href="#">Delete</a>

**My Recommended Goals****My Set Goals****My Achieved Goals**

Goals	Current Status	Goal	Days Left	Goal Date	Points	Actions
 Know your Blood Pressure		<b>Achieved</b>	0	06/30/2018	300	Delete
 Medication Adherence		<b>Achieved</b>	0	06/01/2019	300	Delete

# Tracking Tools and Links to Wellness Ecosystem Tracking Tools

**Health Resources** | **My Wellness Library** | **Report Comparison**

### My Personal Diet

---

#### Measurements

---

- Blood Pressure Tracker
- Blood Glucose Tracker
- Cholesterol Tracker
- Weight Tracker

#### Diet & Fitness

---

- Diet & Activity Manager
- Nutrition Manager
- Calorie Calculator

#### Lifestyle

---

- Sleep Tracker

#### Stress

---

- Mood Tracker
- Stress Tracker

### Recommended Smart Apps & Wearables

---

- Apple Healthkit
- Argus
- Fatsecret
- FitBit
- Google Fit
- IHealth
- Map My Fitness
- Microsoft Health
- Misfit
- Movable
- My Fitness Pal
- Run Keeper
- Strava
- Striiv



## 5. **Motivation and Engagement:** On-going Personalized Feedback and Encouragement, Based on User Activity or Inactivity

- **Emails:**
  - Have not logged-in (5-days)
  - Have not onboarded
  - Have not completed the HRA (Health Risk Assessment)
  - Promote a Feature (**Wellness Checklist**)
  
- **In-App Notifications: Immediate Feedback**
  - Recorded their daily steps in step tracker
  - Entered a meal in the meal tracker
  - Recorded their new weight in their personal profile
  
- **Push Notifications: Instant Gratification**
  - Achieved a Goal
  - Reached a Milestone
  - Personal Best
  - Action Needed Immediately – (i.e. get Glucose level checked)
  - Important Announcement – (i.e. new safety video released, or date of next webinar etc.)

# Today's Willpower Moment – Psychology or Wellness Success - Mindfulness



---

Hello Brad,

[Today's Willpower Moment: 35](#)

**Topic: Part 1 (of 10): Overcoming The Sabotage Thoughts That Set You Up For Failure**

In Today's Willpower Moment we start a 10 Part Series, where Dr. Meschino explains how to guard against the 10 Most Common Sabotage Thoughts that prevent people from reaching their weight loss goals and their desire to have a thinner, healthier, more toned, more youthful and vibrant body. If you really want results you need to be on the look out for these sabotage thoughts and have the plan to overcome them. Click on the video link and start guarding your mind against the thoughts that hold most people back from succeeding.

Eat Smart, Live Well, Look Great

**Dr. James Meschino**

# Engagement: Gamification and Community

---

- Leaderboard - For Various Challenges
- Add Groups
- Create Teams
- Personal challenges - (i.e. 10 Km Run)
- News feed / updates
- Track progress
- Share Insights (Recipes, Personal Trainer at local gym etc.)

# My Community

[Dashboard](#) [Leaderboards](#) [Groups](#) [Teams](#) [Challenges](#)

## Leaderboards



Earn Points and Get ahead of your Colleagues!

1st		Keira Knightley	10000
2nd		Jack Sparrow	9000
3rd		Harry Potter	8000

## Profile

### Trophies Earned



1st Place



100+ Likes



Superstar



Health Diploma



10K Champ



Team Player

### Group

Not Part of a Group

[Join a Group](#)

### Team



Accounting  
43 Members

[view](#)



My Team  
43 Members

[view](#)

### Personal Challenges

Run 10 km this Week  
1000 Bonus Points for Completing

100%



Log Food 5 days in a row  
1000 Bonus Points for Completing

60%



Sleep 7+ hours 5 day this Week  
1000 Bonus Points for Completing

45%



### Team Challenges

Collectively Run 100 km this Week

News Feed

Popular

### Today



**Ryan C. vs. Brad W. (10k dash)**

Ryan C. defeated Brad W. in a 10k jogging challenge.



23 likes



**Ryan C. Climbs 1 spot**

Ryan C. passes Harry P. on the top 10 chart.



23 likes



**Keira K. Takes 1st Place!**

RKeira K.zooms by the competition. Can anyone Catch her?



23 likes

### This Week



**Ryan C. vs. Brad W. (10k dash)**

Ryan C. defeated Brad W. in a 10k jogging challenge.



23 likes



**Ryan C. Climbs 1 spot**

Ryan C. passes Harry P. on the top 10 chart.



23 likes



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RKeira K.zooms by the competition. Can anyone Catch her?



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Ryan C. defeated Brad W. in a 10k jogging challenge.



23 likes



**Ryan C. Climbs 1 spot**

Ryan C. passes Harry P. on the top 10





# My Community

Dashboard

Leaderboards

Groups

Teams

Challenges

My Group

Join Group

1



12 Members

Beginner

View

Mountain Biking

Notification



6



12 Members

Beginner

View

Yoga

Notification



7



12 Members

Beginner

View

Running

Notification



# My Community

MY CHALLENGES

PAST CHALLENGES

Rules

Start a Challenge +

## Pending Challenges



This Weeks Special Bonus  
**All Physical Activities**

x2  
Points



**Kira K.** Challenged **You** to  
**Run 10 km this Week** 🎁  
Sept. 12 - 4:45pm (7 day Challenge)

Accept

Decline



**Kira K.** Challenged **You** to  
**Run 10 km this Week**  
Sept. 12 - 4:45pm (7 day Challenge)

Nudge

Decline



**Kira K.** Challenged **You** to  
**Run 10 km this Week**  
Sept. 12 - 4:45pm (7 day Challenge)

Accept

Decline



**Kira K.** Challenged **You** to  
**Run 10 km this Week** 🎁  
Sept. 12 - 4:45pm (7 day Challenge)

Accept

Decline

## Active Challenges



**Run 10 km this Week**  
1000 Bonus Points for Winning x2

Details

Log



You

4.5km



Kira K.

4.5km

5  
Days Left



**Log food 5 days in a row**  
1000 Bonus Points for Winning

Details

Log



You

2/5



Kira K.

4/5

3  
Days Left



**Sleep 7+ hours 5 days this Week**  
1000 Bonus Points for Winning

Details

Log



You

2/5



Kira K.

4/5

4  
Days Left

Don't feel challenged enough?

Challenge a Colleague

# 6. Other Features: Access From Wellness Dashboard

**ESCHINO** Health & Wellness

OPTIMAL LIVING Program  
Free eBook

Jim Meschino  
14855 points

## My Wellness Wallet

Bio Age 60 MHR Score 87

Dashboard | My HRA | My Wellness Report | Create My Wellness Plan | My Wellness Planner | Trackers & Resources | Dr. Meschino's Research Reviews

**60**  
Bio Age

**87**  
MHR Score

**0%**  
Daily Wellness Checklist

**Diet & Activity Manager**

**Nutrition Manager**

**Mental Wellbeing**

**My Calories**

**934** Daily Calorie Goal

**0** Food

**0** Exercise

**934** Calories Remaining

---

**My Step Challenge**

**900,000 Steps in 90 Days**

**Aug 08, 2019** Challenge Started

**Nov 05, 2019** Challenge Ends

**898,600** Steps Remaining

**43** Days Remaining

**0%**

**My Trackers**

Tracker	Last Update	Value
Bp Tracker Detail	May,31 2018	60
Nutrition Manager	Jan,17 2017	00
Sleep Tracker	Sep,10 2015	05
Step Tracker	Sep,10 2015	05

**Notifications**

No Notification

**Recent Activities**

No recent activities

# Notification/Communication Feature

The screenshot displays the 'My Wellness Wallet' dashboard for a user named Jim Meschino. The interface includes a top navigation bar with the user's name, points (14855), and a 'NEXT' button. A central navigation menu lists options like 'My Wellness Report', 'My Wellness Planner', and 'Trackers & Resources'. The main content area is divided into several sections: a profile overview with Bio Age (60) and MHR Score (87); a 'My Calories' section showing a goal of 934 and 0 food/exercise; a 'My Step Challenge' section with a progress gauge at 0% and 898,600 steps remaining; a 'My Trackers' table; and a 'Notifications' section which is highlighted with a red box and contains the text 'No Notification'. Other sections include 'Daily Wellness Checklist', 'Diet & Activity Manager', 'Nutrition Manager', 'Mental Wellbeing', and 'Recent Activities'.

**My Wellness Wallet** Bio Age 60 MHR Score 87 [NEXT](#)

[Dashboard](#) [My HRA](#) [My Wellness Report](#) [Create My Wellness Plan](#) [My Wellness Planner](#) [Trackers & Resources](#) [Dr. Meschino's Research Reviews](#)

**My Calories** [ADD FOOD](#)

934	0	0	934
Daily Calorie Goal	Food	Exercise	Calories Remaining

**My Step Challenge** 900,000 Steps in 90 Days [LOG STEPS](#)

Aug 08, 2019 Challenge Started

Nov 05, 2019 Challenge Ends

898,600 Steps Remaining

43 Days Remaining

0%

**My Trackers** [SETTINGS](#) [SEE ALL](#)

Bp Tracker Detail	May,31 2018	60
Nutrition Manager	Jan,17 2017	00
Sleep Tracker	Sep,10 2015	05
Step Tracker	Sep,10 2015	05

**Notifications** [SEE ALL](#)

No Notification

**Recent Activities** [SEE ALL](#)

No recent activites

# Wellness Checklist, Mental Health Assess, Nutrition Manager, Step Challenge

**ESCHINO** Health & Wellness

OPTIMAL LIVING Program  
Free eBook

Jim Meschino  
14855 points

**My Wellness Wallet** Bio Age 60 MHR Score 87 [NEXT](#)

[Dashboard](#) [My HRA](#) [My Wellness Report](#) [Create My Wellness Plan](#) [My Wellness Planner](#) [Trackers & Resources](#) [Dr. Meschino's Research Reviews](#)

**My Wellness Checklist** (0%)

**Diet & Activity Manager**

**Nutrition Manager**

**Mental Wellbeing**

**My Trackers** [SETTINGS](#) [SEE ALL](#)

Tracker Name	Last Update	Value
Bp Tracker Detail	May,31 2018	60
Nutrition Manager	Jan,17 2017	00
Sleep Tracker	Sep,10 2015	05
Step Tracker	Sep,10 2015	05

**My Calories** [ADD FOOD](#)

Category	Value
Daily Calorie Goal	934
Food	0
Exercise	0
Calories Remaining	934

**My Step Challenge** [LOG STEPS](#)

900,000 Steps in 90 Days

Aug 08, 2019 Challenge Started

Nov 05, 2019 Challenge Ends

898,600 Steps Remaining

42 Days Remaining

0%

**Notifications** [SEE ALL](#)

No Notification

**Recent Activities** [SEE ALL](#)

No recent activities

**Questions?**  
Please leave a message and we will ...

# Health Reminders/ Calendar Features

Prompt individuals who meet inclusion criteria for specific early detection tests to schedule appointments:

- Colonoscopy
- PSA Test
- Bone Mineral Density Test
- Mammograms etc.

**Also** Medication Adherence (Schedule Reminder)

# Health Literacy

Health Risk

All Media

Articles

Downloads

Videos

By Keyword:

Search



## Dr. Meschino's Research Reviews

*These are a collection of review papers and videos on various health topics Dr. Meschino has written and recorded during the course of his professional career*

By Alphabet:

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

ALL

Total Health Risk : 217

• Acne

• Fertility

• Nutrition in Early Childhood

• Adrenal Fatigue

• Fibrocystic Breast Disease

• Nutrition in Infancy

• Alcohol

• Fibromyalgia

• Oral Contraceptives (Birth Control Pills)

• Alcohol Consumption

• Financial Health

• Osteoarthritis/Degenerative Arthritis

• Alcohol Intake

• Fractures (the healing of fractures)

• Osteoporosis/Osteopenia

• Allergy

• Gall Bladder Stones (Gall Stones)

• Other Cancer



# Weekly Wellness Update – Health Literacy and Motivation

## Lifestyle Medicine Update No 140 (August 20, 2019)

with Dr. James Meschino

Topic: Higher Daily Choline Intake Linked to 28% Decrease in Dementia Risk

Source: American Journal of Clinical Nutrition (July 2019)



It may interest you to know that the brain makes the memory chemical “acetylcholine” from choline and phosphatidylcholine found in various foods. Lower brain levels of choline are known to result in lower brain acetylcholine levels and a decline in memory function. A study published in the 2019 issue of the American Journal of Clinical Nutrition was the first to observe that adequate dietary intake of phosphatidylcholine from day to day is associated with a reduced risk of dementia as we age. And, higher intake of phosphatidylcholine was also linked to enhanced cognitive performance.

In this study, researchers analyzed approximately 2,500 Finnish men aged 42 - 60 years of age for their dietary and lifestyle habits, and health in general. These data were combined with their hospital records, cause of death records and medication reimbursement records after an average follow-up period of 22 years.

In addition, four years after the study onset, approximately 500 men completed tests measuring their memory and cognitive processing. During the follow-up, 337 men developed dementia. The study showed that the risk of dementia was 28% lower in men who had the highest intake of dietary phosphatidylcholine when compared to men with the lowest intake. Men with the highest intake of dietary phosphatidylcholine also excelled in tests measuring their memory and linguistic abilities. In this study, men with the highest intake ingested 325 - 430 mg of choline per day on average.

Choline intake was the key finding linked to memory preservation and higher cognitive function, as the study extensively accounted for other established lifestyle and nutrition-related factors that affect the risk of dementia. Even a genetic test for the APOE4 gene, which predisposes to individuals to Alzheimer’s disease was accounted for, and it showed no significant impact on the findings. The researchers conclude, “Higher phosphatidylcholine intake was associated with lower incident dementia and better cognitive performance in men in Eastern Finland.”

So, it may interest you to know that US studies show that most adults consume less than the adequate intake of choline, as set out by the US Food and Nutrition Board. The recommended amount of daily choline for men is 550 mg and 425 mg for women. In the US, the average daily choline intake from foods and beverages in adults are 402 mg in men and 278 mg in women. Evidence is accumulating that getting adequate choline each day may be one more important strategy to prevent dementia, and possibly Alzheimer’s disease as we age. As such, I have included a chart below showing the amount of choline found in many common healthy foods.

You will see that beef, egg yolk, and beef liver contain significant amounts of choline, but I suggest you refrain from eating these foods or greatly limit their intake due to their negative impact on causing other important health problems that I have reviewed in other video update newsletters. As a quick overview, here are some healthier foods with respectable amounts of choline: soybeans and soy products, chicken breast, Atlantic cod, Shitake mushrooms, potatoes, kidney beans, quinoa, 1% milk, non-fat yogurt, brussels sprouts, broccoli, cottage cheese, canned tuna, peanuts, cauliflower, green peas, sunflower seeds, brown rice, whole-wheat bread or pita bread, cabbage, tangerines and mandarin oranges. See the chart below for exact details.

I personally take 1-2, lecithin capsules (1200 mg) each day to top up my phosphatidylcholine and choline intake. There is approximately 180 mg of phosphatidylcholine in each 1200 mg lecithin capsule.

I’ve included the references for this information in the text below.

**Amount of Choline per Serving**



# Objective Parameters Attainable via Wellness Practices

Ideal Blood Parameters Goals for Longevity - Largely Influenced by **Diet and Lifestyle**

1. **Total Cholesterol** – at or below 3.9 mmol/L
2. **LDL cholesterol** – at or below 2.0mmol/L
3. **Low HDL cholesterol** – Men: at or above 1.17 mmol/L; Women: at or above 1.42 mmol/L
4. **TC:HDL Ratio** – at or less than 3:1 (upper limit of 3.9:1)
5. **Fasting Glucose** - ideally under 5.0 mmol/L and **HbA1c** – at or below 5.0
6. **Triglycerides** - at or below 1.5 mmol/L
7. **Homocysteine** - at or below 6.3 umol/L
8. **C-Reactive Protein** - less than 0.24 mg/dL (2.4 mg/L)
9. **Uric Acid** - Men: 140 – 440 umol/L; Women: 80 – 350 umol/L
10. **Fructosamine** - 205 – 285 umol/L
11. **Liver Function Tests (ALT, GGT, etc.)** – within standard normal range
12. **Kidney Function Tests:**
  - **Blood Creatinine** - 60-110  $\mu$ mol/L in adult males and 45-90  $\mu$ mol/L in adult females
  - **eGFR** - at or above 60 mL/min

## Other Key Parameters:

- **Blood Pressure:** under 130/80 mmHg or more ideally 120/70
- **Waist Circumference** – Men at or below 36 inches and women at or below 33 inches
- **Aerobic Fitness, Strength and Flexibility**



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