“When Old Becomes New”

Lifestyle Medicine Curriculum

College of Osteopathic Medicine of the Pacific

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Assistant Dean of Community Engagement
Course Director- Physician & Society, Service Learning, Lifestyle Medicine
April 2015

Educating Future Physicians in Lifestyle Medicine
Western University COMP & COMP-Northwest

Paula Crone, DO, Dean,
College of Osteopathic Medicine of the Pacific,
COMP-Northwest

- COMP was founded in 1977 and has graduated more than 4,000 DOs
- COMP-Northwest is the Oregon site of the College of Osteopathic Medicine of the Pacific (COMP), the medical school for Western University of Health Sciences (WesternU), in Pomona, CA
- COMP-Northwest opened its doors in August 2011
- COMP-Northwest graduating first class in June 2015

WesternU is a comprehensive graduate university of health professions with 9 colleges, of which COMP is the founding college:

- College of Osteopathic Medicine of the Pacific (COMP)
- Graduate College of Biomedical Sciences
- College of Allied Health Professions
- College of Dental Medicine
- College of Veterinary Medicine
- College of Optometry
- College of Pharmacy
- College of Podiatric Medicine
- College of Graduate Nursing

Healthy Living and Wellness Initiative
TOPICS

• The Problem
• Lifestyle Medicine – Evidence Based Prevention
• Lifestyle Medicine in Medical Education
• Osteopathic Philosophy & Lifestyle Medicine
• COMP Lifestyle Medicine Curriculum
• LMEd Medical School Curriculum Consortium
Top 10 Leading Causes of Death in the US
CDC 2012 and 2013

Cancer: 166.5 (2012), 163.2 (2013)
Chronic lower respiratory diseases: 41.5 (2012), 42.1 (2013)
Stroke: 36.9 (2012), 36.2 (2013)
Suicide: 12.6 (2012), 12.6 (2013)
The Problem

- 2/3 of all disease worldwide is complicated or caused by lifestyle choices
- U.S. six of the top 10 causes of death in 2013 were chronic diseases
- As of 2012 about 1/2 of adults -117 million people have one or more chronic health conditions. One in four adults has two or more chronic health conditions.
- U.S. 84% of healthcare spending chronic conditions
  - heart disease and stroke $315.4 billion (2010)
  - diabetes $245 billion (2012)
  - obesity $147 billion (2008) > 1/3 adults are obese
  - arthritis $128 billion (2003)

CDC Chronic Disease Prevention and Health Promotion [http://www.cdc.gov/chronicdisease/index.htm](http://www.cdc.gov/chronicdisease/index.htm)
CDC Direct and Indirect Costs: Center for Disease Prevention and Health Promotion-Chronic Disease and Health Promotion 2015 [http://www.cdc.gov/chronicdisease/overview/index.htm](http://www.cdc.gov/chronicdisease/overview/index.htm)
The Problem

• Disease care system
• Prevalence of Obesity in U.S. 1962- 13%  2015 – 34%
• Lifestyle can prevent, treat and reverse
  – Obesity
  – Heart attacks and strokes
  – Heart Disease
  – Hypertension
  – Type II diabetes
  – Osteoporosis
  – Many types of cancers

CDC Chronic Disease Prevention and Health Promotion [http://www.cdc.gov/chronicdisease/index.htm](http://www.cdc.gov/chronicdisease/index.htm)
CDC Direct and Indirect Costs: Center for Disease Prevention and Health Promotion-Chronic Disease and Health Promotion 2015 [http://www.cdc.gov/chronicdisease/overview/index.htm](http://www.cdc.gov/chronicdisease/overview/index.htm)
Obesity Prevalence CDC 2013

Percent of Obese (BMI ≥ 30) in U.S. Adults

[Map showing obesity prevalence by state with color coding for different percentage ranges]
Diagnosed Diabetes
CDC 2013

A variety of different analysis consider the factors underlying the most common causes of death.

- **Behavior and Lifestyle**: 50%
- **Medical Care**: 20%
- **Social/Physical Environment**: 20%
- **Biological/Genetic**: 10%

Determinants of Health Outcomes

- **Genetic**: 20%
- **Environment**: 20%
- **Medical Care**: 10%
- **Lifestyle**: 50%
This critical transformation is motivated by significant evidence based research indicating that modifiable behaviors – especially unhealthy eating and physical inactivity – are major drivers of mortality, disease, and health care costs.
The Secret Sauce - Lifestyle Medicine

“The evidence-based practice of assisting individuals and families to adopt and sustain behaviors that can improve health and quality of life”

Lianov L, Johnson M. *JAMA.* 2010;304:202-203

*JAMA.* 2013 Aug 14;310(6):591-608

Chronic Disease Prevention and Health Promotion CDC
New Generation of Physicians Thinking Upstream

- Diabetes
- Dementia
- Obesity
- Genetics
- Behaviors
- Heart Disease
- Social Conditions
- Lifestyle
- Education
- Housing & Community
- Childhood
- Genetics
- Access to HC
- Allergies
- Metabolic Syndrome
- Stroke
- Cancer
- Nephritis
- Childhood
- Metabolic Syndrome
- Dementia

Healthy Living and Wellness Initiative
Lifestyle Medicine Evidence Leaders

- Dean Ornish MD
- T Colin Campbell PhD
- Caldwell B. Esselstyn MD
- David Katz MD
- John McDougall MD

- American College of Lifestyle Medicine (ACLM)
- Institute of Lifestyle Medicine (Harvard)
“When Old Becomes New”
Osteopathic Philosophy & Lifestyle Medicine Align

Tenets of Osteopathic Medicine

• The body is a unit; the person is a unit of body, mind, and spirit.
• The body is capable of self-regulation, self-healing, and health maintenance.
• Structure and function are reciprocally interrelated.
• Rational treatment is based upon an understanding of the basic principles of body unity, self-regulation, and the interrelationship of structure and function.

Lifestyle Medicine

• Cultivates integration through exercise, nutrition, behavior changes, and self care
• Chronic diseases can be prevented, treated, and reversed through optimum lifestyle behaviors
• Physical wellbeing is dependent on optimum wellness.
• Evidence-based curriculum and practical education will give medical students expertise to utilize the above principles.

The Tenets of Osteopathic Medicine. American Osteopathic Association House of Delegates

Healthy Living and Wellness Initiative. Western University of Health Sciences.
Lifestyle Medicine Competencies- Summary

• **Leadership** - promote healthy behaviors and practice healthy behaviors

• **Knowledge** – of evidence that specific lifestyle changes can have a positive effect on patients’ health outcomes

• **Assessment skills** – social, psychological, biological behaviors; readiness, willingness and ability to make behavior change; history/physical specific to lifestyle-related status

• **Management skills** – use national guidelines, establish effective relationships with patients, collaborate with patient and community, refer patients to other health care professionals

• **Use of office and community support** – practice in an interdisciplinary team, use office systems, measure process and outcomes, community referrals resources that support healthy lifestyles

- Liana Lianov MD, MPH, FACPM
American College of Lifestyle Medicine [http://www.lifestylemedicine.org/core](http://www.lifestylemedicine.org/core)
COMP’s Lifestyle Medicine Curriculum

Provides comprehensive and in-depth overview of Lifestyle Medicine and its supporting science with a focus on evidence-based results, disease prevention and chronic disease intervention.

Reversal tools for type 2 diabetes, cardiac rehabilitation protocols, heart disease prevention, and weight loss/maintenance strategies for obese patients

Importance of being healthy-lifestyle role models to patients in their communities, including rural, diverse, underserved and global populations.
1. Identify ways that health care providers can help patients prevent, manage, and reverse chronic diseases

2. Use nutrition, exercise and lifestyle medicine to guide patients to reach desired health outcomes

3. Apply basic culinary techniques and principles that providers can utilize themselves and introduce to patients and community members

4. Teach nutrition and culinary medicine in a community setting

5. Learn how to practice and apply mind body (stress mgt) medicine

6. Understand the role of sleep in health & chronic disease prevention

7. Develop and apply skills for effective patient-centered behavioral counseling and motivational interviewing in order to increase the likelihood that a patient will consider making appropriate health behavior changes
4 yr Longitudinal Lifestyle Medicine Education

- **Year 1-2**
  - Physician and Society I & II
  - Lifestyle Medicine 17 hours

- **Year 3-4**
  - Clinical Rotations with Committed LM Preceptors

- **Year 1-4**
  - Elective Lifestyle Medicine Longitudinal Track

- **Year 1-2**
  - Lifestyle Medicine Student Interest Groups and Clubs
Year 1: Lifestyle Medicine Curriculum PAS I

Epidemiology of Lifestyle Medicine
Human Nutrition: Science, Biology and Optimum Nutrition
Exercise: Science and Physiology
Stress Biology
Sleep Physiology
A Whole Approach to Health
Medical Student and Physician Self-Care
Physicians Path to Lifestyle Medicine
Year 2: Lifestyle Medicine Curriculum PAS II

Evaluating and Treating Patients
  • Nutrition & Disease, Nutrition Assessment and Dietary Prescribing
  • Exercise Prescription
  • Stress Management, Mindfulness Stress Reduction

Helping Patients with Behavior Change
  • Motivational Interviewing and Behavior Change Counseling
    (Tobacco, Alcohol Substance Use, Dietary and Exercise Change
  • Health and Wellness Coaching, Patient Self-Management Program
  • Educational Support Groups (CHIP)

Clinical Case Driven: Integrative Assessment, History, Physical and Testing
Clinical Case Driven: Whole Person Treatment Planning
# Lifestyle Medicine

## Longitudinal Elective Track Curriculum

### LIFESTYLE MEDICINE ELECTIVE CURRICULUM YEARS 1 - 4

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
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<tbody>
<tr>
<td><strong>Fall</strong></td>
<td><strong>Spring</strong></td>
<td><strong>Harvard “Exercise is Medicine” Video Series</strong></td>
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<tr>
<td>PAS I</td>
<td>PAS II</td>
<td></td>
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<tr>
<td>Mind Body Medicine</td>
<td>Tulane Culinary Medicine</td>
<td>Loma Linda CHIP Patient Education Series</td>
<td>Elective Clinical Lifestyle Medicine Rotations</td>
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<tr>
<td>E-Cornell Plant Based Nutrition NutritionFacts.Org</td>
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<td>Didactic Week</td>
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<tr>
<td>Lifestyle Medicine Disease and Risk Reduction</td>
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<td>Capstone Project</td>
<td>Dr. Louise Muscato, Course Director</td>
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**Healthy Living and Wellness Initiative**
Culinary Rx

No ingredient is a “miracle cure” in itself. But here are some foods chefs and doctors recommend for eating well—in every sense.

select the dots to view
CME in Culinary Medicine for Physicians

Robert B. Ellis, DO, PhD

With a PhD in Immunology, a graduate of the Chicago College of Osteopathic Medicine, and a 24 year career in the Army, Dr. Ellis’ specialty is Hematology and Oncology. His grandmother, a DO, fueled his interest in caring for cancer patients. He approaches the care of his patients with malignant disorders in an integrative way, focusing on the least toxic method of controlling or reversing the condition. He believes that attention to lifestyle factors such as nutrition, stress, and toxic occupational, personal and environmental exposures are foundational to healing.

The Science and Practice of Plant-Based Diets: A Culinary Immersion for Physicians

Chef Mark

Mark Reinfeld has over 20 years experience preparing creative vegan and raw food cuisine. Mark was the Executive Chef for the North American Vegetarian Society’s 2013 and 2012 Summerfest, one of the largest vegetarian conferences in the world. He is the founding chef of the Blossoming Lotus Restaurant. Mark is also the recipient of the Platinum Carrot Award for living foods—a national award given by the Aspen Center of Integral Health to America’s top “innovative and trailblazing health chefs”.

Healthy Living and Wellness Initiative
Dr. Craig McDougall, MD, in conjunction with Northwest Kaiser Permanente, developed the following guide to plant-based nutrition, “Healthy Living: Eat Healthy, Live Better,” for his medical specialty clinic where he uses a plant-based diet to prevent and reverse most common diseases.
David C. Nieman, DrPH, FACSM

David Nieman is a professor in the College of Health Sciences at Appalachian State University, and director of the Human Performance Lab at the North Carolina Research Campus (NCRC) in Kannapolis, NC (www.ncresearchcampus.net).

Dr. Nieman’s current work is centered on investigating unique nutritional products as countermeasures to exercise- and obesity-induced immune dysfunction, inflammation, illness, and oxidative stress (www.ncrc.appstate.edu).
LIFESTYLE RECOMMENDATIONS:

- Avoid tobacco use
- Maintain BMI under 25 kg/m²; Your target weight is: _____________ lb.
- Total 2.5-5 h/week exercise (aerobic and muscle fitness); reduce sitting time
- Follow a plant and whole food-based diet:
  - Eat ≥4.5 cups of fruits and vegetables each day (emphasize wide variety of both)
  - Select whole grains, nuts, seeds, legumes (beans, soy products)
  - Limit intake of high-fat meats and dairy products; substitute fish and poultry
  - Limit intake: sugar beverages, salt, saturated & hydrogenated fat, refined grains
  - Don’t eat more than you burn up every day (develop “caloric awareness”)
- Keep alcohol intake moderate (≤1 drink/d F; ≤ 2 drinks/d M)
- Sleep 7-8 h per night (regular schedule)
- Keep stress under control (reduce stressors)

PERSONAL INFORMATION:

Name ________________________________ Age ____  Height _____  Weight ______

Activity (hours/wk) _________________  Fruit/veggie servings/day _______________

Your Motivation ____________________________________________________________________
Curriculum: Organizational Partners

American College of Lifestyle Medicine
Appalachian State University Human Performance Lab
Harvard Institute of Lifestyle Medicine
Kaiser Northwest Permanente
Linn Benton Community College Culinary Arts
Loma Linda University and CHIP
Samaritan Health Services
Sara O’Leary Chef and Dietician Education
Tulane Goldring Center for Culinary Medicine
University of South Carolina - Greenville
Umpqua Community Clinic

LMEd – Lifestyle Medicine Education Curriculum Consortium

And many more!
Going Forward

• Integrate LM curriculum throughout the entire curriculum
• Identify clinical models and organizations that integrate LM today in their practice
• Incorporate more experiential LM student activities
• Find more preceptors to reinforce LM 1:1 with students
• Collaborate to discover, refine, develop and implement exceptional curriculum
Integrating Lifestyle Medicine into your Medical School Curriculum

www.LifestyleMedicineEducation.org

Dennis Muscato
Healthy Living and Wellness Initiative
Outcomes, Assessment, and Special Projects
Western University of Health Sciences, COMP-Northwest
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Lebanon, OR 97355
C:541-760-3837
dmuscato@westernu.edu
Leadership, guidance and resources to advance the adoption and implementation of lifestyle medicine curricula throughout medical education.

Current focus:
- Exercise
- Nutrition
- Behavior change
- Self-care

Support for faculty, administrators and students:
- Mentorship
- Community building
- Curriculum catalog
- Meetings/events

www.LifestyleMedicineEducation.org
LMEd National Team
LMEd National Partners

Founded in 2013 by Dr. Edward Phillips, Harvard Medical School’s Institute of Lifestyle Medicine, and Dr. Jennifer Trilk, University of South Carolina School of Medicine Greenville

Represented Organizations

- Ardmore Institute of Health
- American Association of Medical Colleges
- American College of Lifestyle Medicine
- American College of Sports Medicine/ Exercise is Medicine
- American College of Preventive Medicine
- American Council on Exercise
- American Medical Student Association
- Bipartisan Policy Center
- Josiah Macy Jr. Foundation
- LevelSmart
- Liaison Committee on Medical Education
- National Board of Medical Examiners
- National Coalition for Promoting Physical Activity
- NextGenU
- Western University of Health Sciences - College of Osteopathic Medicine of the Pacific
Faculty and administrators are invited to serve as lifestyle medicine liaisons or champions at their institutions.

Interested? Sign up for our newsletter – Stay Tuned!

www.LifestyleMedicineEducation.org

Our full site is under development but a growing collection of resources is available.
Thank You!
## Conventional vs Lifestyle Medicine

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<thead>
<tr>
<th>Conventional</th>
<th>Lifestyle</th>
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<tbody>
<tr>
<td>Treats individual risk factors</td>
<td>Treats lifestyle causes</td>
</tr>
<tr>
<td>Patient is often passive recipient of care</td>
<td>Patient is active partner in care</td>
</tr>
<tr>
<td>Patient is not required to make big changes</td>
<td>Patient is required to make big changes</td>
</tr>
<tr>
<td>Treatment is often short term</td>
<td>Treatment is always long term</td>
</tr>
<tr>
<td>Responsibility falls mostly on the clinician</td>
<td>Responsibility falls mostly on the patient</td>
</tr>
<tr>
<td>Medication is often the “end” treatment</td>
<td>Medication may be needed but as an adjunct to</td>
</tr>
<tr>
<td></td>
<td>lifestyle change</td>
</tr>
<tr>
<td>Emphasis is on diagnosis and prescription</td>
<td>Emphasis is on motivation and compliance</td>
</tr>
<tr>
<td>Goal is disease management</td>
<td>Goal is primary, secondary and tertiary disease prevention</td>
</tr>
<tr>
<td>Little consideration of the environment</td>
<td>Consideration of the environment</td>
</tr>
<tr>
<td>Side effects are balanced by the benefits</td>
<td>Side effects are seen as part of the outcome</td>
</tr>
<tr>
<td>Referral to other medical specialties</td>
<td>Referral to allied health professionals as well</td>
</tr>
<tr>
<td>Doctor generally operates independently on a</td>
<td>Doctor is coordinator of a team of health</td>
</tr>
<tr>
<td>one-to-one basis</td>
<td>professionals</td>
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