AFTER COMPLETING THIS CONTINUING EDUCATION COURSE, NUTRITION PROFESSIONALS SHOULD BE ABLE TO:

- Discuss the concept of digestive fire (agni) from an eastern perspective of ayurvedic medicine.
- Understand the state of evidence-based research supporting the healing aspects of spices and how to effectively use them to diversify the gut microbiome of adults and children.
- Provide practical suggestions on how to create mindful awareness and savor meals according to the season.
- Apply an integrated approach with eastern wisdom and modern science in helping adult and pediatric clients establish diverse gut microbiota to strengthen overall immune health.
GUT MICROBIOME

- Gut microbiota refers to microbe population in our intestine.
- Average human contain trillions of gut bacteria.
- Composition and diversity is unique to each individual.
- Begins to evolve at birth and influenced by multiple factors
  - Mode of infant delivery and feeding
  - Lifestyle Stages
  - Diet composition
  - Geography
  - Medications – Antibiotics and Gastric Acid Suppression
  - Stress – Exercise, Metabolic, Psychological

FUNCTIONS OF GUT MICROBIOME

- Metabolism – energy homeostasis, host digestion & nutrition
- Host Protection and Immune system development
- Gut Brain Axis
- Possible link to
  - Chronic gastrointestinal disease – IBS & IBD
  - Systemic metabolic disease – obesity & type 2 dm
  - Atopic eczema and other allergic disease

USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINE IN USA OVER THE YEARS

A 2008 report from the National Center for Complementary and Alternative Medicine (NCCAM) indicates that 38 percent of Americans are using some form of complementary or alternative medicine, including herbal supplements, meditation, Ayurveda, acupuncture, chiropractic, and yoga.
AYURVEDA

AYU = Life or daily living
VEDA = Knowing

SCIENCE OF LIFE

• To preserve health
• To promote health of the healthy
• To prevent and cure the disease of the ill person

The practical knowledge of self-healing may be acquired by anyone. Each individual is capable of self-healing.

Observing cycles of nature and align practices and routines is of fundamental importance.

World Health Organization (WHO) – Ayurveda as Traditional Medicine (TRM)
National Institute of Medicine (NIH) – Ayurveda as Complementary and Alternative Medicine (CAM)

Mind, Body, Spirit
Prevents Disease
Treats the whole individual
Importance to Qualitative and doesn’t ignore subjectivity
Multiple Approach
Diet, Lifestyle, meditation, pranayama, detox
Live in harmony with Nature

MODERN MEDICINE

Physical, Body, Recent Openness to Mind-Body Connection
Treats the Disease
Quick fix the problem
Focus on Objectivity and Quantitative in Nature
Single Approach
Medicine, Surgery, (Diet and Exercise recent focus)
No connection to Nature

INTEGRATIVE MEDICINE

• Integrative medicine – promising model of care
• Gaining acceptance in medical centers, hospitals and healthcare systems
• Integrative medicine shows great promise for chronic GI and digestive issues
• Ayurveda, Chinese Medicine, Use of Herbs, Spices, Food as Medicine
How to Incorporate Ayurveda into Modern Living

Yoga / Pranayama
Herbs / Spices
Ayurveda
Vedic Astrology
Meditation
Sound Therapy / Mantras
Pancha Karma - Seasonal Cleanse
Dinacharya - Daily Self Care
Dosha Balancing Diet

STUDY OF ELEMENTS

Energy of Movement
Energy of Metabolism
Energy of Structure

Catabolic
Anabolic
Balancing

SEASONS: Fall through Early Winter
SEASONS: Summer through Early Fall
SEASONS: Late Winter through Spring

AYURVEDIC DAILY CLOCK

PITTA
KAPHA
VATA

Light Breakfast
Exercise
Follow ‘To Do List’
Dream

Creative Work
Run Task List

Light Dinner
Unwind
Relax

Sleep
Operation of Food and Thoughts

10 am
6 am
2 pm
10 pm
6 pm
8 pm

Strong Agni
Big Lunch
Important Meetings
Challenging Tasks

Sleeping Well
Night
Important Meetings
Challenging Tasks

Sleeping Well
Night
Important Meetings
Challenging Tasks

Sleeping Well
Night
Important Meetings
Challenging Tasks
TRADITIONAL AYURVEDIC DIETS FOCUSES ON -

- Importance to how food is prepared, timing of meals, seasonal eating, food combinations, quantity and quality of meals.
- Plant Protein – high short chain fatty acids – increase gut barrier and reduces inflammation
- Diet high in plant based polysaccharides, resistant starch, dietary fiber – adding diversity to gut microbiota
- Spices and Herbs – contains phytonutrients, antimicrobial properties, polyphenols, prebiotics
- Fermented Foods – Yogurt, Buttermilk, Grains and Legumes – contains probiotics.

CIRCADIUM RHYTHM AND GUT MICROBIOME

Intestinal Microbiota
• Regulated by
  • Time of Eating
  • Diet
  • Host Circadian Rhythms
• Disrupted by
  • Irregular eating patterns
  • High-fat diet / high-sugar diet – saturated fats, trans fats, safflower – polyunsaturated fatty acids

Disruption = metabolic syndrome

Several studies demonstrate a clear link between disruption of microbiota rhythms with host metabolic syndrome and obesity
**MEALTIMES & SEASONAL MINDFULNESS**

**MEALTIMES**

✓ **BREAKFAST**
   - Light meal in summer or when agni is low, more substantial in winter time

✓ **LUNCH**
   - Main Meal. Eaten between 11 am and 1 pm. Do not snack between meals unless hungry and clear burp.

✓ **DINNER**
   - Light meal around sunset or earlier. 2 hours between dinner and bedtime.

**SEASONS**

✓ **VATA (FALL/EARLY WINTER)**
   - Favor warming soups, herbal teas, easy to digest food

✓ **PITTA (SUMMER/EARLY FALL)**
   - Favor foods that internally cool and hydrate, cooling spices, rice, easy to digest millets

✓ **KAPHA (LATE WINTER/SPRING)**
   - Favor pungent, bitter, warm foods, spiced foods, raw foods

Reference: textbook of Ayurveda – Vol 3 by Dr. Lad

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**AGNI – DIGESTIVE FIRE**

"Agni is responsible for life span, complexion, strength, health, enthusiasm, lustre, immunity, energy, heat processes and prana. Agni is the root cause of both health and disease."

- Charaka Samihita. Chikitsa Sthana. Ch.15 v1-2

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**AGNI, IMMUNITY AND MICROBIOME**

✓ Agni is metaphor for digestive system, sense perception and even cellular metabolism

✓ It corelates with digestive fire and associated with activities of hormones, enzyme and co-enzymes.

✓ It represents the metabolic function by which the food we eat is digested, ingested and the nutrition derived from it.

✓ Agni is the ignition switch for digestive enzymes to start work.

✓ Low Agni is the root cause of all disease
  - Blocks nutrition
  - Poor microbiome
  - Lowers immune response
  - Creates mental fatigue
SIMPLE WAYS TO KINDLE AGNI

✓ Eat a slice of ginger root, sprinkled with lime juice and rock salt
✓ Avoid drinking excess water, especially after meals
✓ Avoid ice cold or refrigerated drinks
✓ Avoid excessive consumption of caffeine.
✓ Do not eat unless hungry
✓ Eat and drink with awareness and mindfulness, so that overeating does not occur
✓ Drink digestive spiced teas before, with or after a meal.
✓ Walking improves circulation and enhances agni. Brief walk before and after eating.

DIVERSIFY GUT MICROBIOME – THE AYURVEDIC WAY

✓ Include all six tastes in your diet each day.
  ✓ Sweet, Sour, Salty, Bitter, Pungent, Astringent
✓ Regular intake of vegetables, legumes, beans and fruits - best sources of prebiotics promotes healthy microbiota
✓ Include fermented foods: Yogurt, Kimchi, Pickled veggies, Lassi – probiotic rich spiced yogurt drink, Dosas – Fermented savory crepes
✓ Cut down on sugar and processed foods.
✓ Chew food thoroughly. Eat with no distractions.
✓ Fiber supports gut and microbiome. The more the better!
✓ Eight hours of sleep per night.
✓ Meditation and Deep Breathing – reduces stress which in turn influences gut health
DIGESTIVE SPICES AND HERBS

- Pungent taste of spices clarifies the senses, liquefies secretions and stimulates digestion.
- Spices contain many antimicrobial, anti-inflammatory properties.
- They are also a source of polyphenols which are beneficial for gut bacteria.
- Cumin, Coriander, Fennel, Ginger, Black Pepper, Turmeric, Clove, Cinnamon are ideal spices for digestive health.

YOUTUBE VIDEO – BESPICED CHANNEL

Hot water infusion of cumin, coriander and fennel seeds is a classic recipe in Ayurveda due to its dipana and pachana properties.

YOUTUBE VIDEO – BESPICED CHANNEL

Dosas are fermented rice and lentil savory crepe that is traditionally enjoyed as a staple in the Southern part of India.

Contains lactobacillus plantarum strain of probiotics shown to inhibit growth of a range of food-borne pathogens.
REFERENCES

Credit Claiming

You must complete a brief evaluation of the program in order to obtain your certificate. The evaluation will be available for one year; you do not need to complete it on August 15, 2018.

Credit Claiming Instructions:
1. Go to CE.TodaysDietitian.com/GutMicrobiome OR log on to CE.TodaysDietitian.com, go to "My Courses" and click on the webinar title.
2. Click "Take Course" on the webinar description page.
3. Select "Start/Resume Course" to complete and submit the evaluation.
4. Download and print your certificate.