

Overview of Integrative Medicine

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Subclasses of IM

1. Complete Medical Systems
 - Traditional Chinese Medicine (acupuncture, herbs, energy therapies)
 - Ayurveda
2. Mind-body Therapies
 - meditation
 - hypnosis, guided imagery
 - art or music therapy
 - yoga, tai chi



What is integrative medicine?

- Evolved from Complementary and Alternative Medicine (CAM)
- Combines mainstream medical therapies and CAM therapies
- Goal of incorporating complementary therapies for which there is high-quality scientific evidence of safety and efficacy
- Different from alternative medicine

Subclasses of CAM

3. Biologically-Based Therapies
 - herbal and dietary supplements
 - nutrition
 - functional medicine
4. Manipulative & Body-Based Methods
 - massage
 - osteopathic or chiropractic manipulation
5. Energy Therapies
 - Reiki
 - Qi Gong
 - Therapeutic Touch



Integrative Medicine

- Healing-oriented medicine
- Attention to patient's whole being
- Consideration of spiritual and emotional aspects
- Focus on supportive and preventative care

Why Integrative?

- Economic burden of chronic disease worsening with aging population
- Conventional medicine too dependent on costly high-tech approaches, including pharmaceuticals
- CAM provide patients with greater autonomy

Integrative Medicine

- Emphasis on physician-patient relationship as partnership
- Exploration of natural approaches to healing
- Neither rejects conventional medicine nor accepts complementary therapies uncritically

Why Integrative?

- Patients may desire more natural or less-invasive therapies
- Current medical system not sustainable
- Need to shift towards disease prevention

History of CAM and Integrative Medicine

- Long history of “hostile” relations between allopathic and “irregular” practitioners
- 3 waves of popularity:
 - ✓ Mid 1800’s (homeopathy),
 - ✓ 1890’s to early 1920’s (naturopathic, osteopathic, chiropractic practices),
 - ✓ 1960’s and 70’s (massage and acupuncture arise)
- Renewed interest through 1990’s, with growing challenges of chronic disease and high costs of medical care

Integrative Medicine and Academics

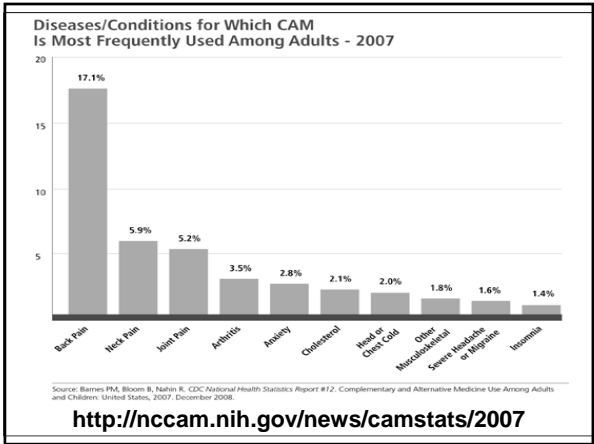
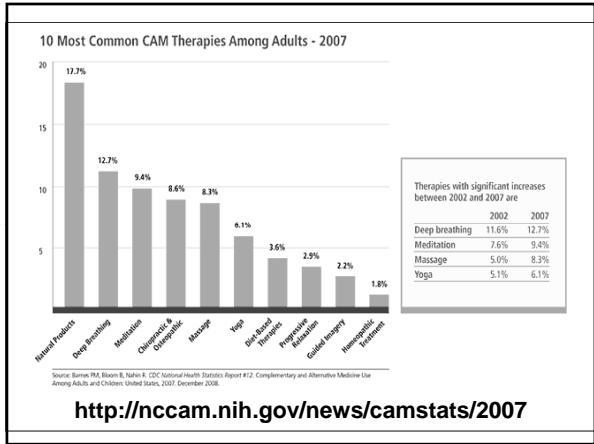
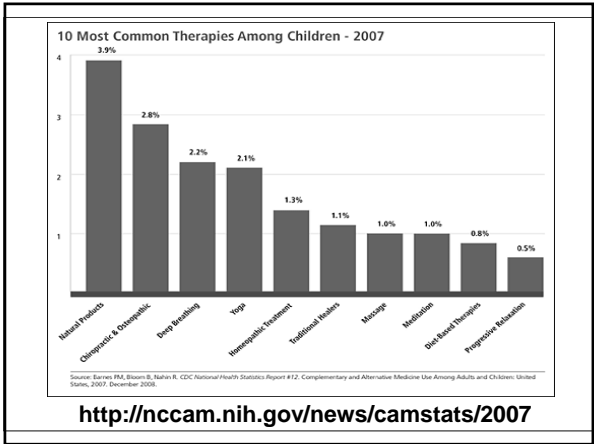
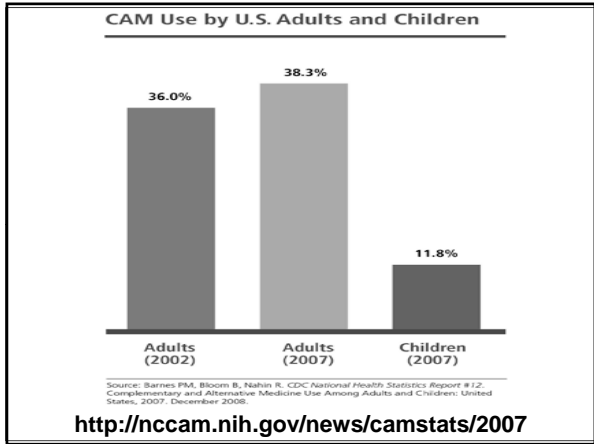
- Multiple centers now with integrative medicine programs or services
- Consortium of Academic Health Centers for Integrative Medicine currently with 44 members
- OSU joined in 2008

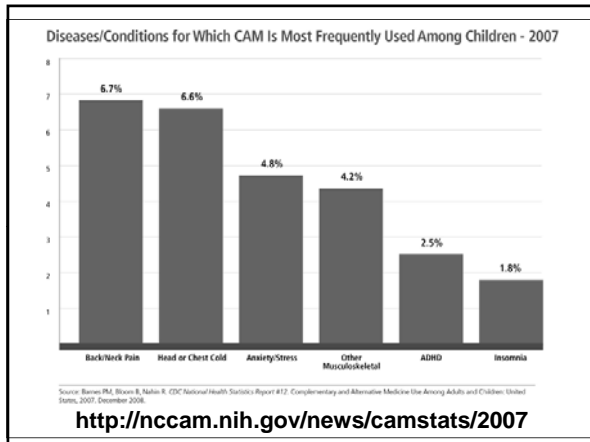
Increasing Interest

- National Center for Complementary and Alternative Medicine (NCCAM) in 1999
- Recognition of new discipline of integrative medicine
- Full NIH research center with \$127.2 million budget for 2010
- Commitment to studying CAM with well-designed randomized trials

Who is using CAM?

- 2007 survey conducted by NCCAM – National Health Interview Survey
- More than 23,300 interviews with American adults, and more than 9,400 adults on behalf a child
- Included detailed questions on CAM use in prior 12 months
- Released December 2008:
<http://nccam.nih.gov/news/camstats/2007/>





Issues of Concern

- Toxic or detrimental effects of CAM
- Drug-herb interactions
- Lack of regulation of herbal/dietary supplements
- Reduction of effectiveness of conventional therapy
- Physicians unaware of patient CAM use
- True effectiveness versus placebo
- Lack of reimbursement for costly therapies
- Ethics of a consumer-driven market

Spending on CAM

- 2007 governmental survey
- U.S. public spent approx \$33.9 billion out-of-pocket on CAM over previous 12 months
- 11.2% of total out-of-pocket expenditures
- \$22 billion on CAM self-care costs
- 354.2 million visits to CAM practitioners
= one-quarter of total out-of-pocket spending on physician visits (\$11.9 billion)

Complete Medical Systems

Complete Medical Systems

- Traditional Chinese Medicine (TCM)
- Ayurveda
- Naturopathy
- Homeopathy

Acupuncture

- Key component of Traditional Chinese Medicine
- Practiced for 1000's of years
- Health achieved by maintaining balance of yin and yang
- Flow of Qi (vital energy) through meridians can be blocked, deficient, excessive, imbalanced
- Influence Qi at acupuncture points with thin, metallic needles

Traditional Chinese Medicine

- Nutrition
- Chinese herbs
- Tai Chi
- QiGong
- Acupuncture



Common Indications for Acupuncture

- Chemotherapy-induced nausea and vomiting
- Post-op pain
- Lower back pain
- Myofascial pain
- Osteoarthritis
- Headaches
- Menstrual cramps
- Tennis elbow
- Carpal tunnel syndrome
- Addiction
- Asthma



Acupuncture Techniques

- Moxibustion – therapeutic application of heat to acupuncture points by burning herb (*Artemesia vulgaris*)
- Cupping – applying suction to skin with small glass jars
- Acupressure – manual pressure applied to acupressure points and meridians
- Electroacupuncture – electric current applied to needle



Medical Acupuncture

- Combination of Western medicine and TCM concepts
- Treats wide scope of conditions including prevention
- Looks at both medical paradigms
- Affords more holistic approach
- American Board of Medical Acupuncture

Acupuncture

- Education and training requirements for licensure vary from state to state
- In Ohio, acupuncture considered an extension of branch of medicine
- Medical license or licensed acupuncturist (following training at accredited school)
- Chinese herbal medicine excluded from scope of practice of acupuncture in Ohio

Ayurveda

- Culturally based healing tradition, originated in India
- Emphasis on maintain balance of doshas
- Digestion considered root of all health
- Diet, lifestyle, herbs, meditation, yoga, panchakarma (detoxification), jyotisha, abhyanga (oil massage)



Ayurveda

- Ayurvedic training in India either bachelor's or doctorate degree
- U.S currently without educational or certification standard
- Some states with approved Ayurvedic educational institutions
- Current NCCAM-funded studies on: curcuminoids/turmeric, ginger, boswellia

Naturopathy

- 4 naturopathic medical schools in U.S.
- Accredited by Council on Naturopathic Medical Education
- Doctor of Naturopathic Medicine (N.D.)
- Licensing requirements vary across states
- No laws regulating naturopathy in Ohio

Naturopathy

- Holistic approach, rooted in Germany
- Central belief that living organisms have power to heal themselves
- Practitioners prefer most natural and least invasive treatments
- Seek to treat cause of disease, not symptoms

Mind-Body Therapies

Mind-Body Therapies

- Focus on inducing state of physiological relaxation and stillness
- Enhance mental and physical awareness
- Help recognize negative emotions and patterns of thought
- Restore physical and psychological well-being
- 2nd highest used CAM therapy

Movement Related Meditations

- Yoga
- Tai chi
- Qi gong



Mind-Body Therapies

- Biofeedback
- Breathwork
- Guided imagery
- Expressive writing
- Art, music, dance therapy
- Hypnosis
- Meditation
- Movement-related meditations
- Progressive muscle relaxation (PMR)

Energy Therapies

Energy Therapies

- Concept of physical body as an energy field suffused with “life force”
- Two types of energy fields:
 - Veritable = can be measured
 - Putative = have yet to be measured
- Qi (TCM) or prana (Ayurveda)
- Free balanced flow of energy necessary for health

Energy Therapies

- Reiki
- Polarity therapy
- Johrei
- QiGong
- Therapeutic touch
- Healing Touch
- Yoga
- Acupuncture
- Zero balancing



Energy Therapies

- Potential adjunctive therapies to medical management
- Negligible negative side effects if properly used
- Useful to match patient’s belief system to available modalities
- Certification guidelines and directories of practitioners available on-line for most modalities

Reiki

- Japanese based energy field therapy
- Idea of universal energy that supports the body’s innate healing abilities
- Practitioners channel this energy through hands into patient’s body
- Self-care
- Current NIH funded studies of Reiki: fibromyalgia, AIDS, prostate cancer, DM II

Healing Touch

- Assists in balancing physical, emotional, mental, and spiritual well-being
- Supports natural healing ability
- Transfer of energy by laying of hands above or on the body
- Based in the chakra system
- Initially developed for nurses

Biologically Based Therapies

- These therapies use substances found in nature to treat illness or promote wellness.
 - ✓ Nutrition
 - ✓ Supplements
 - ✓ Botanicals
 - ✓ Functional Medicine



Biologically Based Therapies

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Nutrition

- Health effects of food are related to specific interactions on molecular level
- Dietary constituents participate in the regulation of gene expression
 - ✓ Modulating the activity of transcription factors through the secretion of hormones that in turn interfere with a transcription factor

Nutrition - Diets

- Western
- Vegetarian
- Mediterranean
- High Fiber
- Anti-inflammatory
- Elimination
- DASH
- Low Fat
- High Protein Low Carbohydrate

Nutrition

- Environmental Nutritional Medicine
 - ✓ Food Additives and Preservatives
 - ✓ Food Pesticides, Toxins and Contaminants
 - ✓ Food Storage, Processing and Preparation
- Drug-Nutrient Interactions (Statins deplete body of CoQ-10)
- Inter-Nutrient Interactions (Absorption of Magnesium is hindered by excess fat)

Nutrition

- From the mid 1800s to 1980:
 - Fiber content of Western Diets fell 75%
 - Sugar consumption rose five-fold to 25% of calories
 - Fat intake rose four-fold, replacing starch
- According to published USDA data, nutrient content of 43 foods (mostly vegetables) showed reliable declines in content for protein, Ca, P, Fe, riboflavin and ascorbic acid

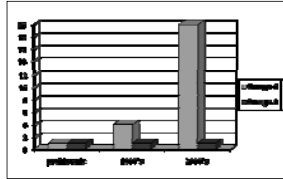
Supplements

- Vitamins
- Minerals
- Essential Fatty Acids
- Non-essential Amino Acids
- Biomolecular supplements



Essential Fatty Acids

- Omega-3 (Alpha-linoleic)
 - EPA, DHA
- Omega-6 (Linoleic)
 - inversely related to BP, CAD
- Linoleic/Alpha-linoleic ratio in Western diets is 20:1 to 40:1 – ideal thought to be 4:1 to 1:1



Omega-3 (Alpha-linoleic)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Decrease production of <ul style="list-style-type: none"> ✓ Chemoattractants ✓ Growth factors ✓ Adhesion molecules ✓ Inflammatory cytokines | <ul style="list-style-type: none"> • Increase production of <ul style="list-style-type: none"> ✓ Nitric Oxide ✓ Endothelial relaxation ✓ Vascular compliance |
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Omega-3 (Alpha-linoleic)

EPA (eicosapentaenoic acid)
DHA (docosahexaenoic acid)

Properties:

- Anti-atherogenic
- Anti-thrombotic
- Anti-inflammatory



Rationale for Nutritional Supplements

- Significant failure to consume the RDA for many of micronutrients
- Soils are significantly depleted of essential minerals
- Stress reduces body stores of magnesium, potassium, zinc, selenium and group B vitamins

Rationale for Nutritional Supplements

- Loss of nutrients through the storage, shipping, freezing, preservation, milling, bleaching
- Greater exposure to free radicals and toxins in western society requires greater amounts of endogenous and exogenous antioxidants



Botanicals

- Natural – YES
- Benign - NO
- Herbs and Supplements are regulated as drugs in Canada

Botanicals

- Some of the first medicines
- About 80% of the population of earth uses plant medicine as their primary source of healing
- Chemistry of plants is much more complex that of pharmaceutical agents
- Different parts of the same plant can have different qualities

How to Find Quality Products

- Look for Product Seals



- Confirm the identity and quantity of the ingredient declared on the label
- Confirm product is free of contaminants and undeclared ingredients
- Demonstrate conformance to industry GMPs
- On-going monitoring

Reading the Label

- Statement of identity
- Net quantity
- Name and place of business
- Nutrition labeling
- Ingredient list

Reputable Web Recourses

- Consumer Reports Rating
<http://www.consumerreports.org/health/home.htm>
- Natural Standard
<http://www.naturalstandard.com> 
- Office of Dietary Supplements (ODS) Fact sheets
www.ods.od.nih.gov 

Reputable Web Recourses

- Canada's Natural Health Products Compendium of Monographs
www.hc-sc.gc.ca 
- Consumer Labs
www.consumerlab.com/
- Natural Medicine Comprehensive Database
www.naturaldatabase.com/ 

Functional Medicine

- Personalized medicine that deals with primary prevention and underlying causes instead of symptoms for serious chronic disease
- Looks for commonalities and root causes

Core Clinical Approaches

- Hormonal and neurotransmitter imbalances
- Oxidation-reduction imbalances and mitochondriopathy
- Detoxification and biotransformational imbalances
- Immune imbalances
- Inflammatory imbalances
- Digestive, absorptive, and microbiological imbalances
- Structural imbalances from cellular membrane function to the musculoskeletal system

Body-based Therapies

- Osteopathic
- Chiropractic
- Massage
- Rolfing
- Alexander Technique
- Feldenkrais
- Healing Touch



Body Based Therapies

Osteopathic Medicine

- Founded in 1874 by A.T.Still, M.D.
- Three tenets of OM:
 - ✓ The Body is a unit (body/mind/spirit cannot be separated)
 - ✓ Structure and function is interrelated
 - ✓ The body is self-healing

Osteopathic Medicine

- Main focus is on wellness and prevention as opposed to treatment of the disease
- Use variety of manual medicine techniques

Rolfing

- Founded by Ida Rolf PhD
- Focused on unlocking restrictions in the fascia
- Patient lies down and is guided through specific movements. During these Rolfing manipulations fascia is manipulated until it returns to its original length

Chiropractic

- Found by Daniel David Palmer
- Theory
 - ✓ altered nerve flow is the cause of all disease
 - ✓ misaligned spinal vertebrae have effect on nerve flow
- Use wide variety of techniques with significant variation from practitioner to practitioner

Alexander Technique

- Discovered by Frederic Alexander
- Form of education that is applied to recognize and overcome reactive, habitual limitations in movement and thinking
- Teaching to express thinking in movement, making new choice in spite of established habitual patterns

Feldenkrais

- Israeli scientist, nuclear physicist Moshe Feldenkrais
- Studied martial arts, physiology, kinesiology, and anatomy
- Educational method intended to give greater functional awareness of the self
- Improving the ability to move can improve one's overall wellbeing

Contraindications

- Caution with vertebral artery
- Known joint disease (RA, gout, etc.)
- Bone pathology (osteoporosis)
- Bone neoplasm
- Genetic disorder
- Hypermobility joint

Massage

- Recorded in Egyptian and even during Biblical times
- Was recommended by Hippocrates
- Mostly practitioner dependent

Typical side effects

- Worsening pain (transient)
- Fatigue
- Soreness
- Nausea

Case Study

- 46 y/o WF with history of Fibromyalgia, Insomnia, Depression, Obesity and multiple allergies to medications, comes to your office looking for more natural approach. Her pain is out of control, feels very tired all the time, irritable, also complains of constipation.

Integrative Medicine Approach

- **Mood**
 - ✓ Actively treat depression
- **Psychology**
 - ✓ Psychotherapy, relaxation techniques, coping mechanisms, cognitive behavioral therapy, mind-body practices (biofeedback, mediation, etc)
- **Body-based therapy**
 - ✓ Massage, acupuncture
- **Energy Movement Practices**
 - ✓ Yoga, Tai Chi

Integrative Medicine Approach

- **Nutrition**
 - ✓ Anti-inflammatory Diet
 - ✓ High Fiber diet
- **Supplements**
 - ✓ Magnesium, D-ribose, L-carnitine, Omega 3 FA, MVI, B-complex, Vitamin D (screen for deficiency), SAMe
- **Sleep**
 - ✓ Melatonin, Valerian Root, Anti-depressants, Behavioral Modification
- **Physical activity**
 - ✓ Physical therapy for rehabilitation

Why care about integrative medicine?

- All of us and our patients will be affected in some capacity
- Awareness about potential negative effects
- More effective communication with patients
- Gain insight on our patients' needs
- Feedback on how well we are serving our patients
- Potential benefits and additional treatments – more tools

OSU Center for Integrative Medicine

- **Opened in 2005**
- **MDs**
- **Nutrition/Supplements**
- **Chiropractic**
- **Massage therapy**
- **Psychology – Mind-Body**
- **Acupuncture**
- **Ayurveda**
- **Community classes (yoga, art therapy, etc)**

