



## Naturopathic Medicine (NM401)

### Lesson B

## Naturopathic Research

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#### Course Description (reviewed):

This is a basic course in Naturopathic Medicine covering the basic principles and therapies involved in this healing profession. Naturopathic medicine is based on the recognition that the human organism has an innate self-healing capacity that responds to efforts to support it using natural means, referred to in the profession as the *Vis medicatrix naturae*. This practice of medicine is at once a record of the healing wisdom of many centuries and a distillation of current scientific research. Naturopathic medicine is an eclectic discipline, comprising the therapies of clinical nutrition, botanical medicine, homeopathy, physical medicine, hydrotherapy, traditional Chinese medicine & acupuncture, and lifestyle counseling, among others.

The course is taken from a book designed to comply with the curriculum established at leading naturopathic colleges affiliated with the Council on Naturopathic Medical Education (CNME). This book along with the Hyperhealth CD have been sent to your home address and should be with you shortly.

While waiting for the book and CD to arrive, you can begin studying Lessons A to C which are provided online.

In this Lesson B we introduce scientific research in naturopathic medicine.

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While you progress through Lesson B, the following documents, references and study questions will help you to more effectively learn systematically. There is also a quiz at the end of each of the lessons, which you must complete as the scores go towards your final grade.

#### **Research and Studies Based on Naturopathic Medicine**

Historically, the legacy of Hippocrates shows the value of systematically studying and recording information about the patient. You have read about Hippocrates as part of Lesson A and it may be helpful to review his information now. He applied then-current knowledge about the world and human senses to understanding illness. He recognized that there was an unseen process (or quality or aspect) of Life that was called the *Vis medicatrix naturae* and he trusted that it was at work all the time whether or not the physician understood what it was.

Since the time of Hippocrates medical practice has benefited from carefully studying and recording information about the patient and then applying that information within the context of the current theory of human function.

There is a deep commitment to including the scientific method within naturopathic medical practice even though the *Vis medicatrix naturae* has not yet been fully defined. In the last 200 years the discoveries of such phenomena as A) the homeopathic effect (diluting and vibrating substances), B) unseen energies

such as X-rays, C) the results of quantum physics, and, D) the electromagnetic fields related to the brain, organs and tissues of the body, have brought the study of health to a level that holds great promise for the future of humanity. Many naturopathic physicians have insisted on including homeopathy and “energy medicine” theory as part of their healthcare practice and there has developed an ongoing dialogue about how to appropriately include energy medicine within the definition of the *Vis medicatrix naturae*.

Because of the economic benefits of “mass production” and the “assembly-line approach” to providing goods and services to a growing population in the world, there has been a strong incentive to describe health and healthcare in ways that can be marketed for the least cost so that more people can be helped with limited financial resources. That has caused great differences of opinion among doctors, researchers, insurance companies, public planners and legislators as to how to allocate money and resources for helping people become healthier.

Read the description of Research in the first reference below to see how complex is the situation regarding the definition of research and what is currently accepted as “scientific research.”

Research, defined: <http://en.wikipedia.org/wiki/Research>

Bastyr University Research Institute: <http://www.bastyr.edu/research/>

News release: Bastyr University Research Institute Awarded \$4.52 Million Grant:  
<http://www.bastyr.edu/news/news.asp?NewsId=2128>

The published studies below represent some current efforts within the naturopathic medical community to conduct scientific research into natural methods of treatment.

Note: It is Dr. Wilson’s hope that in the future the understanding of the *Vis medicatrix naturae* will include the electromagnetic and field properties of that unseen aspect of human health. Such a clarification of the *Vis* would then lead to inclusion of techniques that naturopaths frequently include in their assessments and treatments such as homeopathy, acupuncture meridian-based techniques, and more. This will be included in the material in Lesson C.

Click on the four links below to download the .pdf documents and store them on your computer. The study questions below are based on these and the three pages reached by using the links given above. [In addition, beneath the study questions are additional links that lead to research publications from Bastyr University Research Institute and several documents written by Dr. Georgiou that illustrate the importance of conducting research into naturopathic medicine.]

### **Cancer research:**

[Immune Defects in Breast Cancer Patients after Radiotherapy](#). Standish LJ, Torkelson C, Hamill FA, Yim D, Fitzpatrick A, Olsen M, Schildt S, Sweet E, Wenner CA, Martzen M. J Soc Integr Oncol 2008 6(3): 110-121.

Herb research:

[Hypericum perforatum \(St John's wort\) for attention-deficit/hyperactivity disorder in children and adolescents: a randomized controlled trial](#). Weber W, Vander Stoep A, McCarty RL, Weiss N, Biederman J. JAMA. 2008 Jun 11;299(22):2633-41.

Qi gong research:

[The Effects of Qigong on Glucose Control in Type 2 Diabetes: A randomized controlled pilot study](#). Sun,

Lovejoy, Gillham, Putiri, Sasagawa, Bradley. *Diabetes Care*; 2009 Dec 29, 2009; Vol. 33 No 1 E8.

Massage and Guided Meditation research:

[Might massage or guided meditation provide "means to a better end"? Primary outcomes from an efficacy trial with patients at the end of life.](#) Downey L, Diehr P, Standish LJ, Patrick DL, Kozak L, Fisher D, Congdon S, Lafferty WE. 2009. 25(2):100-8.

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The following study questions are to guide you through this lesson and will be the basis for your quiz. There is no need to formally answer them and send them to your tutor, simply bear them in mind as a guide while you are reading through the lesson.

### Study Questions

How does the Bastyr University Research Institute define its Mission and Scientific Practices?

In the news release above, announcing the research grant that was awarded to Bastyr University, what was the funding source, and what were the four recipients of the group grant?

In the study, **Immune Defects in Breast Cancer Patients after Radiotherapy**, what data was collected?

What were the before-and-after comparisons of the patients' fatigue levels in the above study?

What were the final conclusions of that study of breast cancer patients?

In the study, **A Randomized Placebo Controlled Trial of *Hypericum perforatum* for Attention Deficit Hyperactivity Disorder in Children and Adolescents**, what are the two chemical constituents of the plant which the authors present as potentially main active ingredients?

Describe the active treatment intervention in the *Hypericum* trial and the placebo control that was used.

In the study, **Effects of Qigong on Glucose Control in Type 2 Diabetes**, what data was collected?

In the study, **Three Lessons from a Randomized Trial of Massage and Meditation at End of Life: Patient Benefit, Outcome Measure Selection, and Design of Trials with Terminally Ill Patients**, describe the "second look" at the data originally collected and how the final recommendations present a more supportive outcome for the patient and family/support system.

Both of the studies -- on Qigong, and Massage & Meditation -- represent important research concerning physical health without the use of prescription medication. What steps were taken by the Bastyr University Research Center to make these studies fit within the expected structure for research conducted in the western medicine field?

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Below are further research studies that have been published in peer-reviewed journals of natural medicine and make a good basis to refer to when you want to support a statement about natural medicine. It is always more convincing to quote specific research studies. Concluding this module are several documents that Dr. Georgiou has written that illustrate the value in carefully presenting the questions that could then become research topics.

Our suggestion is to continue building on these references as you go through your studies – include any new studies that you find during Internet searches. Make certain that you include the complete reference listing and where possible download the complete article and archive it in a “Research Directory” on your computer. You will build a gold-mine of information in a short while to which you will continually return.

### **Selected Published Studies from Bastyr University Research Institute**

(<http://www.bastyr.edu/research/projects/default.asp?view=Publications> )

[Description of clinical risk factor changes during naturopathic care for type 2 diabetes.](#) Bradley R, Kozura E, Buckle H, Kaltunas J, Tais S, Standish LJ. J Altern. Complement. Med. 2009;15(5): 1-7

[Complementary and Alternative Medicine Use and Quality of Life in Pediatric Diabetes.](#) McCarty RL, Weber W, Loots B, Breuner CC, Vander Stoep A, Manhart L, Pihoker C. Journal of Alternative and Complementary Medicine 2010; 16(2): 165-73

[The Mediterranean diet: Does it have to cost more?](#) Drewnowski A, Eichelsdoerfer P. Public Health Nutrition, 12, 1621 – 1628, 2009.

[Use of Complementary and Alternative Medicine \(CAM\) by Washington Hospices.](#) Kozak L, Kayes L, McCarty RL, Congdon S, Kleinberger J, Hartman V, Standish LJ. American Journal of Hospice and Palliative Medicine, 2009; 25(6): 463-468

[Curcumin reduces the toxic effects of iron loading in rat liver epithelial cells.](#) Messner DJ, Sivam G, and Kowdley KV. Liver International; 2009 Jan;29(1):63-72.

[Binding of NIR-conPK and NIR-6T to Astrocytomas and Microglial Cells: Evidence for a Protein Related to TSPO.](#) Sexton M, Woodruff G, Cudaback E, Kreitzer F, Xu C, Lin Y, Iler T, Bai M, H. Manning HC, Bornhop D, Stell N. Plos One, Dec 2009 Volume 4 Issue 12.

[The effects of Qigong therapy on glucose management in patients with type 2 diabetes.](#) Sun GC, Gillham S, Putiri A, Bradley R, Sasagawa M and Lovejoy J. Alternative Therapies in Health and Medicine. 2009. 15(3): 124.

[The Effects of Qigong on Glucose Control in Type 2 Diabetes: A randomized controlled pilot study.](#) Sun, Lovejoy, Gillham, Putiri, Sasagawa, Bradley. Diabetes Care; 2009 Dec 29, 2009; Vol. 33 No 1 E8

[The naturopathic medical research agenda: the future and foundation of naturopathic medical science.](#) Standish, Calabrese, Snider, Kail, Mills, Myers, Traub, and Zwickey. Journal of Alternative and Complementary Medicine; 2006 Apr ;12(3):341-5.

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[Secondary Prevention of Myocardial Infarction Using Nonpharmacologic Strategies: Analysis of a Medicaid Cohort.](#) Oberg, EB, Fitzpatrick A, LoGerfo J. Preventing Chronic Disease. 2009 Apr;6(2):A52. Epub 2009 Mar 16

[Might massage or guided meditation provide "means to a better end"? Primary outcomes from an efficacy](#)

[trial with patients at the end of life](#). Downey L, Diehr P, Standish LJ, Patrick DL, Kozak L, Fisher D, Congdon S, Lafferty WE. 2009. 25(2):100-8.

[Can Low-Income Americans Afford a Healthy Diet?](#) Drewnowski A, Eichelsdoerfer P. 2010 Nov;44(6):246-249.

[Silybin Treatment is Associated with Reduction in Serum Ferritin in Patients with Chronic Hepatitis C](#). Bares JM, Berger J, Nelson JE, Messner DJ, Schildt S, Standish LJ, and Kowdley KV. J Clin Gastroenterology 2008; 42(8):937-44.

[Compassionate intention as a therapeutic intervention by partners of cancer patients: effects of distant intention on the patients' autonomic nervous system](#). Levine E, Stone J, Radin D, Eskandarnejad S, Schlitz M, Kozak L, Mandel D. Explore (NY). 2008 Jul-Aug;4(4):235-4.

[Adenosine 3',5'-cyclic monophosphate \(cAMP\)-dependent phosphoregulation of mitochondrial complex I is inhibited by nucleoside reverse transcriptase inhibitors](#). Lund KC, Wallace KB. Toxicol. Appl. Pharmacol. 2008 226(1):94-106

[Neoplastic transformation of rat liver epithelial cells is enhanced by non-transferrin-bound iron](#). Messner DJ and Kowdley KV. BMC Gastroenterology, 2008; 8:2.

[Positive correlation between the use of complementary and alternative medicine and internal health locus of control](#). Sasagawa M, Martzen MR, Kelleher WJ, Wenner CA. Explore (NY). 2008; 4:38-41.

[Immune Defects in Breast Cancer Patients after Radiotherapy](#). Standish LJ, Torkelson C, Hamill FA, Yim D, Fitzpatrick A, Olsen M, Schildt S, Sweet E, Wenner CA, Martzen M. J Soc Integr Oncol 2008 6(3): 110-121.

[Silymarin decreases serum ferritin in chronic hepatitis C patients](#). Bares, J. K Kowdley, J Berger, LJ Standish. J. Clin. Gastroenterology 2008,42(8):937-944.

[Acupuncture is underutilized in hospice and palliative medicine](#). Standish LJ, Kozak L., Congdon S. Am J Hosp Palliat Med 2008, 25(4): 298-308.

[Trametes versicolor mushroom immune therapy in breast cancer](#). Standish, LJ, Wenner CA, Bridge C, Nelson A, Martzen M, Novack J, Torkelson C. J. Soc. Integrated Oncology, 2008, 6(3): 122-128.

[Breast cancer and the immune system](#). Standish, LJ, Sweet ES, Novack J, Wenner CA, Bridge C, Nelson A, Martzen MR, and C Torkelson. J. Soc Integrated Oncology, 2008, in press.

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[Complementary and Alternative Medical Therapies for Attention Deficit/Hyperactivity Disorder and Autism](#). Weber W, Newmark S. Pediatr Clin N Am. 2007;54(6): 983-1006.

[Algorithm in CAM Practice and Research in Type 2 Diabetes](#). Bradley R, Oberg EB, Calabrese C, Standish LJ. J Altern Complement Med 2007;13(1):159-75.

[Naturopathic Medicine and Type 2 Diabetes: A Retrospective Analysis from an Academic Clinic.](#) Bradley R, Oberg EB. *Alt Med Rev* 2006;11(1):30-9.

[A Method for Describing and Evaluating Naturopathic Whole Practice.](#) Herman PM, Sherman KJ, Erro JH, Cherkin DC, Milliman B, Adams LA. *Alt Ther Health Med* 2006;12(4):20-8.

[Eating patterns and dietary composition in relation to BMI in younger and older adults.](#) Howarth NC, Huang TT-K, Roberts SB, Lin B-H, McCrory MA. *Int J Obes* 2007;31:675-84.

[Evaluating CAM treatment at the end of life: a review of clinical trials for massage and meditation.](#) Lafferty WE, Downey L, McCarty RL, Standish LJ, Patrick DL. *Complementary Therapies in Medicine*, 2006;14:100-12.

[A twin study of the effects of energy density and palatability on energy intake of individual foods.](#) McCrory MA, Saltzman E, Rolls BR, Roberts SB. *Physiol Behav* 2006;87:451-9.

[Inhibition of PP2A, but not PP5, mediates p53 activation by low levels of okadaic acid in rat liver epithelial cells.](#) Messner DJ, Romeo C, Boynton AL, Rossie S. *J Cell Biochem* 2006;99(1):241-55.

[Treatment of Vasomotor symptoms of Menopause with Black Cohosh, Multibotanicals, Soy, Hormone Therapy, or Placebo.](#) Newton K, Reed S, LaCroix A, Grothaus L, Ehrlich K, Guiltinan J. *Ann Intern Med* 2006;145:869-79

[Echinacea alkylamides inhibit interleukin-2 production by Jurkat T cells.](#) Sasagawa M, Cech NB, Gray DE, Elmer GW, Wenner CA. *Int Immunopharmacol* 2006;6:1214-21.

[Effects of consuming mycoprotein, tofu or chicken upon subsequent eating behavior, hunger, and satiety.](#) Williamson DA, Geiselman PJ, Lovejoy J, Greenway F, Volaufova J, Martin CK, Arnett C, Ortego L. *Appetite* 2006;46(1):41-8.

[Metabolic syndrome in neuromuscular disease.](#) Aitkens SG, Kilmer DD, Wright NC, McCrory MA. *Arch Phys Med Rehabil* 2005;86:1030-6.

[Evidence for Correlations between Distant Intentionality and Brain Function in Recipients: An fMRI Analysis.](#) Achterberg J, Cooke K, Richards T, Standish LJ, Kozak L, Lake J. *J Alt and Comp Med*;2005.

[Dietary fiber and fat are associated with excess weight in young and middle-aged US adults.](#) Howarth NH, Huang TTK, Roberts SB, McCrory MA. *J Am Diet Assoc* 2005;105:1365-72.

[Dairy intake, obesity, and metabolic health in children and adolescents: knowledge and gaps.](#) Huang TTK, McCrory MA. *Nutr Rev* 2005;63:71-80.

[Effect of screening out implausible energy intake reports on relationships between diet and BMI.](#) Huang TTK, Roberts SB, Howarth NH, McCrory MA. *Obes Res* 2005;13:1205-17.

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[Serum total homocysteine levels, folate, and b-vitamins intake and coronary heart disease risk factors among tri-ethnic college students.](#) Koutoubi S, and FG Huffman. Ethn Dis, 14:64-72, 2004.

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[Associations of mind-body interventions with quality of life in HIV-1 positive individuals.](#) Standish LJ, Fitzpatrick A, Berger J, Sanders F, Brumback B, and C Calabrese. Alternative Therapies, May/June 2001.

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[\*\*Systemic immunotoxin treatment inhibits formation of human breast cancer growth in nude rats.\*\*](#) Engebraaten O, Sivam G, Juell S, and Fodstad O. Int J Cancer, 88(6): 970-6, Dec 2000.

[\*\*Photochemical internalization increases the cytotoxic effect of the immunotoxin.\*\*](#) Selbo PK, Sivam G, Fodstad O, Sandvig K, Berg K. Int J Cancer, 15:87(6): 853-9, Sep 2000.

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[\*\*The women's health trial feasibility study in minority populations: changes in dietary intakes.\*\*](#) Coates RJ, Bowen DJ, Kristal AR, Feng Z, Oberman A, Hall WD, George V, Lewis CE, Kestin M, Davis M, Evans M, Grizzle JE, and CK Clifford. Am J Epidemiol, 149:1104-12, 1999.

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[\*\*Literature Review: Most frequently used alternative and complementary therapies and activities by participants in the AMCOA study.\*\*](#) Greene KB, J Berger, C Reeves, A Moffat, LJ Standish, C Calabrese. JANAC; 10(3): 60-73, 1999.

[\*\*A crossover study of the effect of a single oral feeding of medium chain triglyceride oil vs. canola oil on post-ingestion plasma triglyceride levels in healthy men.\*\*](#) Calabrese C, S Myer, S Munson, P Turet. Alternative Medicine Review; 4(1): 23-8, 1999.

[\*\*Screening alternative therapies for HIV: the Bastyr University AIDS Research Center.\*\*](#) Reeves C, C Calabrese, LJ Standish, S Bain. AIDS Patient Care and STDs, Feb. 12(2): 87-89, 1998.

[\*\*Treatment of HIV positive patients with complementary and alternative medicine: A survey of practitioners.\*\*](#) Calabrese C, CA Wenner, C Reeves, P Turet, LJ Standish. Journal of Complementary and Alternative Medicine, 4(3): 281-287, 1998.

[\*\*Assessment of trans-fatty acid intake with a food frequency questionnaire and validation with adipose tissue levels of trans-fatty acids.\*\*](#) Lemaitre RN, King IB, Patterson RE, Psaty BM, Kestin M, and SR Heckbert. Am J Epidemiol, 48:1085-1093, 1998.

[\*\*A scientific plan for the evaluation of alternative medicine in the treatment of HIV/AIDS.\*\*](#) Standish LJ, C Calabrese, C Reeves, N Polissar, S Bain, T O'Donnell. Alternative Therapies in Health and Medicine, Mar. 3(2): 58-67, 1997.

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[\*\*Clinical and endocrinological effects of a menopausal botanical formula.\*\*](#) Hudson T, LJ Standish, C Breed, et al. J Naturopathic Med 7(1): 73-6, 1997.

[Ethical reasoning in clinical genetics: A survey of cases and methods.](#) Callahan TC, Durfy SJ, and AR Jonsen. The Journal of Clinical Ethics, 6(3): 248-253, 1995.

[Report of the results of a double blind, randomized, single-dose trial of 2% aescin gel in experimental hematoma.](#) Calabrese C, P Preston. Planta Medica, 59: 394-7, 1993.

[Homeopathic proving of Candida parapsilosis.](#) Lange A, DA Brown. Homeopathic Links, vol 5:21-2, Spring 1992.

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[Intestinal candidiasis, L. acidophilus supplementation and Crook's questionnaire.](#) Blair DM, CS Hangee-Bauer, C Calabrese. J Naturopathic Med, 2(1): 33-6, 1991.

[Effects of garlic oil on platelet aggregation, serum lipids and blood pressure in humans.](#) Barrie SA, JV Wright, JE Pizzorno. J Orthomolecular Med, 2(1): 15-21, 1987.

[Comparative absorption of zinc picolinate, zinc citrate, and zinc gluconate in humans.](#) Barrie SA, JV Wright, JE Pizzorno, E Kutter, PC Barron. Agents and Actions, 21(1-2): 223-8, Jun 1987.

#### **Additional Publications for Study:**

The following documents from Dr. Georgiou are examples of the careful attention to detail that is necessary when preparing to construct research protocols into important areas of naturopathic medicine. Research is the standard western medicine approach to answering questions such as: “Why does this work?,” or, “Would this work for my patient?” You who are studying this course, Naturopathic Medicine 401, may in the future be one of those who add to the scientific literature that examines various aspects of naturopathic medicine.

[Thinking Outside the Box: Viewing Cancer Holistically.](#) Georgiou GJ. EXPLORE!, Vol. 18, No. 1, 2009.

[A Natural Heavy Metal Chelator is Born.](#) Georgiou GJ. British Naturopathic Journal, Vol. 24, No. 1, 2007.

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