



CERTIFICATION BOARD FOR NUTRITION SPECIALISTS
1350 Connecticut Avenue, NW, 5th floor, Washington, D.C. 20036

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David Heber, M.D., Ph.D., CNS, FACN, Vice-Chair
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July 2010

The CBNS Newsletter

Vol. 1, No. 1

President's Message

Dear Fellow Certified Nutrition Specialists:

We, the Certified Nutritionist Specialists (CNS), can and will make a significant contribution to the nation by enhancing the peoples' well-being and reducing the nation's healthcare costs. However, we can accomplish these goals only if there are enough of us to make an impact and be heard.

President Obama has signed into law a healthcare bill, the scope of which is unprecedented in the Nation's history. The President emphasizes **prevention** as a way to contain health care costs (now 17% of GDP and trending toward 25% in the foreseeable future). However, traditional "prevention" approaches rely heavily on early diagnosis of disease that already exists. To us, this is a "too-late prevention" approach. The bulk of healthcare costs are spent treating financially draining but preventable degenerative diseases. Most of these conditions result from long-term malnutrition: excessive intakes of fats (especially ω -6 fatty acids), calories, simple sugars and oligosaccharides, coupled with inadequate intake of many vitamins, minerals, phytochemicals and dietary fiber. Physical inactivity also contributes to poor health.



Although many good drugs can indeed add years to life, they often are ineffective in adding life to the years and are expensive. Our nation needs better nutrition care because it is the most important, effective, and **least expensive** way to improve our quality of life and the **most logical** way to contain healthcare costs. CNS are the key providers of nutrition care, and the Certification Board for Nutrition Specialists (CBNS) serves as a key element in the nutrition care infrastructure by certifying competent advanced-degreed nutrition scientists. Nutrition care emphasizes prevention of disease and enhancement of life, including healthier aging and enhancement of physical and mental performance. CNS enhance our nation's quality of life by employing sound nutritional practices in the prevention of disease and in providing medical nutrition therapy, nutritional medicine, and nutritional support when illness does occur. CBNS' program assures that a CNS is competent in practicing professional nutrition care.----- *Continued on next page*



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We are fortunate to have many outstanding nutritionists as CBNS directors and officers:

David Heber, M.D., Ph.D., CNS, FACN, is the Director of the UCLA Center for Human Nutrition, a Professor of Medicine and Public Health, and the founding Chief of the Division of Clinical Nutrition in the Department of Medicine at UCLA. Dr. Heber is our Vice President for Professional Relations.



Stanley Dudrick, M.D., CNS, FACN, the father of modern total parenteral nutrition, is Professor of Surgery at Yale University School of Medicine. Dr. Dudrick is our Vice President for Certifying Examination Affairs.

Sidney J. Stohs, Ph.D., CNS, FACN, ATS, is Dean Emeritus of the School of Pharmacy and Health Professions at Creighton University and our Vice President for Administrative Affairs.



Jonathan W. Emord, J.D., the world's foremost leader on nutrition and law, is our Vice President for Legislative and Financial Affairs. Jonathan has made substantial contributions to the freedom of speech of nutritionists and providers of nutritional products, including securing the free dissemination on product labels of the risk mitigating effects of folic acid against neural tube defects.

Michael J. Glade, Ph.D., CNS, FACN, a former President of the CBNS, has been invited to serve as our Executive Director. Dr. Glade was a founding member of the CBNS Board of Directors, has served as Editor-in-Chief for all editions of the CBNS *Study Guide* and was the primary developer of our exam



program. Dr. Glade is tasked with coordinating all of the administrative matters relating to the CBNS Certifying Examination, maintaining the CBNS Communications Network and is Associate Editor of this newsletter.

Arthur B. Chausmer, M.D., Ph.D., CNS, FACP, FACE, FACN, is a Professor of Medicine (adjunct) in the Division of Endocrinology at the Johns Hopkins School of Medicine, Professor (adjunct) in the School of Graduate Studies of the Union Institute and University, and Affiliate Research Professor of Bioinformatics and Computational Biology in the School of Computational Sciences at George Mason University. In addition to sitting on the Board of Directors of the Paget's Disease Foundation, Dr. Chausmer is our Treasurer.

Cheryl Bonomo, M.S., CNS, is the Secretary of the CBNS. She has a Master's Degree in Human Nutrition and has made major contributions to CBNS activities, including revisions of the CBNS *Study Guide*.

I graduated from UCLA 1968, majoring in Biophysics and Nuclear Medicine. I received postdoctoral training from the California Institute of Technology (gene mapping), the UCLA Brain Research Institute (amino acid metabolism & brain function), the Massachusetts Institute of Technology (nutrition); executive training from Harvard University; and leadership training from the Center for Creative Leadership (an affiliate of the University of Maryland). I've held important teaching, industrial, and governmental positions, including Chief Scientist at PepsiCo.-Frito-Lay and Vice President at Richardson-Vicks Natural Product Division, and I am a senior advisor to governments on nutritional matters. My research interests concern the roles of nutrition in healthy aging, the prevention of degenerative diseases and the enhancement of human performance. ----- Continued on next page



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As we see it, during the next 2 to 3 years the CBNS will focus on:

- **Securing wider legal recognition of CNS by redoubling our legislative efforts.** I urge all CNS to participate in this movement. Seize any and all opportunities to have “Certified Nutrition Specialists” services or scope of practice inserted into as many health-related bills as possible, and in as many states as possible. Also, make your community aware of the important contributions you and other CNS make to their health and well-being.
- **Expanding CNS ranks and prestige:** CBNS will seek representation from a wide range of healthcare professional societies and will focus on certifying more nutrition-allied health care professionals by jointly sponsoring nutrition courses and the certification examination. CBNS will gradually elevate the level of the certifying exam, and will promote CNS’ visibility. Each and every CNS will benefit when the number of CNS reaches a critical mass; below that number, CBNS is deprived of efficiency in managing CNS affairs, and CNS are deprived of visibility and influence. Please make expanding CNS ranks a personal priority, work to recruit more candidates for certification and participate by nominating qualified individuals to our Board. There *is* strength in numbers.
- **Educating the public on sound nutritional practices:** Making the people nutritionally well-informed is important to the Nation’s nutrition care, and lays the foundation for CNS practice. CBNS is planning to conduct public lectures or courses on nutrition. Your participation, creativity, ideas and support are solicited.
- **Becoming financially self-sustaining, transparent and accountable:** During past years, CBNS was unable to track and direct its revenues and expenditures. As a result, minor deficits were incurred, which were mitigated by contributions from Mr. Hunter Lewis, Mr. Jonathan Emord, several individual CNS, and the American College of Nutrition. While we are grateful to these donors and welcome donations from CNS and other individuals and organizations (please contact me, drlin@nutrition-intl.com), CBNS has reorganized its administrative and financial affairs and is instituting an “open book” policy in order to better serve its primary constituency: You.

In order for our legislative efforts to become more efficient and effective, CBNS has reincorporated as a 501(c)(6) organization (lobbying activity permitted under IRS rule) and moved its headquarters to Washington, D.C. Please feel free to contact us by email or through our new website.

We welcome your suggestions on improving CBNS and on promoting CNS interests, as well as your direct involvement. We will organize state CNS committees to address the needs and interests of CNS and to campaign for CNS’ rights in each state. CBNS continues to maintain very close relationships with the many professional societies in the field of nutrition and medicine and will work to expand and deepen those relationships.

CBNS is young and we have **abundant energy, talent, and a great vision** of serving the Nation’s nutrition care needs. The future for CBNS and for all CNS is indeed very bright.

Robert I-San Lin, Ph.D., CNS, FACN, FICN
 President



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Vice-President's Message

It is my pleasure to extend greetings to all Certified Nutrition Specialists on behalf of the CBNS.

The need for proper nutrition and nutrition therapy has never been greater while at the same time the opportunities and responsibilities for each CNS are enormous. This country is experiencing a health crisis of mind boggling proportions. The healthcare industry, the US government, private insurers, politicians, and the population in general cannot continue to do the same things and expect different wellness and quality of life outcomes.

The answer is not miracle solutions and magic bullets, more insurance with higher premiums, super foods, better diagnostic procedures and more complex healthcare institutions. Central to the solution is better nutrition, weight management and disease prevention, and not an emphasis on treatment after the fact. We cannot supersize our way to optimum health.

Certainly there are many related issues that must be addressed, including the needs for more exercise and physical fitness, smoking cessation, stress reduction, and a much greater emphasis on disease prevention and wellness by the healthcare and insurance industries as well as the government. Please encourage your colleagues to become Certified Nutrition Specialists and to join with us to assume leadership roles in this fight against malnutrition, obesity and nutritionally-responsive diseases. **Working together we can and will make a difference.**

Sid Stohs, Ph.D., CNS, FACN, ATS

Executive Director's Message

I am very proud to have been asked to rejoin the CBNS office as its new Executive Director. In this role I will move mountains to do all I can to drive our programs forward. As a "founding father" of CBNS I am a living testimony to its potential – my ability to become and remain a licensed nutritionist in Illinois is a direct result of past and continuing hard work by dedicated CNS in my home state.

This is an exciting time for the CBNS and for all Certified Nutrition Specialists. I echo the sentiments and "calls to action" expressed throughout this newsletter and I urge you to step off the sidelines and add your voice and energy to our efforts to reaffirm the CBNS as the highest certifying body for professional nutritionists.

You can support CBNS by updating your mail and e-mail addresses and your annual fee and recertification payments - an army may march on its stomach; successful legislative and educational programs require money - this is a great time to balance your books for 2009 (\$50.00) and 2010 (\$50.00; \$90.00 for both years). Also, recertification (\$200.00 plus evidence of 75 hours of nutrition-related CE obtained during 2006-2010) is required during 2010 for all CNS who were certified in 2004 and 2005.

I can be reached through the CBNS office, to which all payments should be sent (in order to keep operating costs low, CBNS asks that you remit by checks only, payable to "CBNS"):

CBNS
c/o Dr. Glade, Executive Director
PO Box 4425
Skokie IL 60076



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Legislative-Outreach Committee Message

Dear Colleagues:

We are pleased to announce the formation of a new CBNS committee, Legislative-Outreach. Our mission is to expand public access to highly qualified nutrition care professionals by elevating the status of the CNS credential, by increasing the number of CBNS-certified nutritionists, and by striving to incorporate the CNS credential into licensing laws across the nation.

We need you to join us in our efforts to ensure that the CNS credential (along with that of the RD) is incorporated into all new state nutritionist licensing laws. Please contact our Chairperson, Corinne Bush, via e-mail to find out what's happening in your state and what you can do to help.

Our committee was very successful in working with the New Jersey Dietetic Association to draft an "inclusive" bill that is now pending in the NJ legislature. We traveled to Delaware last spring to represent CNS's and ask that we be named explicitly in the licensing regulations there. Our presence was pivotal as was that of attorney Tami Wahl of the Alliance for Natural Health-USA (ANH-USA). January, 2010, brought Corinne to Michigan where she asked their nutrition board to name the CNS in their regulations. They have recently voted to recognize the CNS exam. We are making progress, but there is much work ahead to make our mission a reality.

An important outreach effort planned for the long term is to work with universities to make them aware of the tremendous benefits to students who achieve the CNS credential. We envision an academic path culminating in the CNS internship and exam whether the chosen nutrition career is research, education, or working one-on-one to heal patients with chronic diseases.

We need your help to accomplish these goals. Dr. Lin has called for the formation of Certified Nutrition Specialists State Councils to promote CNS' interests. In response, Robert Femminella is chairing the NY Council and Corinne Bush is chairing the NJ Council. We need volunteers in these and other states.

We look forward to hearing from you - with your help we can make CBNS certification the most recognized and sought after credential for highly educated and qualified nutritionists.

Best regards,

Corinne Bush, M.S., CNS, Chair
corinne@farhillsparmacy.com

Dana Reed, M.S., CNS, CDN, Vice-Chair
Dana@ReedNutrition.com

Fall 2010 dates and locations for the CBNS Certification Examination:

The CBNS Certification Examination is planned to be given simultaneously at the following locations on Saturday, November 13, 2010, from 9 AM until 1 PM:

Boston MA
Chicago IL
Clearwater FL

Dallas TX
New York NY
Los Angeles CA

San Francisco CA
Seattle WA
Washington DC

Specific details regarding exact venues, directions, parking, etc., will be made available on the CBNS website later this summer.



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Letter to the Editor --- Build It and They Will Come

Build it and they will come. It may be an overused cliché, but it certainly fits this situation. I'd like to share my experience about how I became a Certified Nutrition Specialist and why I feel that it is critical to the future of all CNS's that we take action now to increase awareness of our credential and the number of CNS.

When I decided to go back to school, I chose to major in Foods & Nutrition at the College of Saint Elizabeth in Convent Station, NJ. After earning my B.S. degree, I decided that a M.S. degree would offer me more opportunities to work in nutrition. As I continued to research my options, I came across many nutrition certification programs, but nothing that I felt was "solid." I was very interested in Functional Medicine and it was during a visit to the Institute for Functional Medicine (IFM) website that I met Corinne Bush, M.S., CNS. I googled "CNS" and found out about the CBNS. I had finally found a credible alternative to the RD! Still, I proceeded with caution since my advisor had told me numerous times that many so-called nutritionists were quacks.

I contacted Corinne and asked if she would meet with me to talk about the possibility of doing a CNS internship with her. During the hour I spent with Corinne I found out about the CNS and what they do. I learned that it was an advanced degree credential with stringent requirements. Corinne was thoroughly enjoying her thriving nutrition practice and was intelligent and knowledgeable. We hit it off immediately and made plans for beginning my CNS internship. My experience working with Corinne was amazing. Corinne worked diligently to ensure that my supervised hours were meaningful and diverse. The experience was invaluable, as it helped me to take the science and theory that I had learned and put it into practice.

During my internship I learned that there was legislation pending in NJ that needed to be rewritten so that the CNS credential would be recognized in the NJ nutritionist licensure law. We've worked with other CNS's on that issue and we've also testified in DE and are now working with fellow CNS's on licensure issues in WI and MI. We cannot allow legislation to be passed that excludes us from the practice of nutrition!

Getting back to my main message: Build it and They will Come. ***We need to establish the CNS as a compelling choice for professional nutritionists and then create a pathway to go from graduate education to internship to CNS exam.*** I am 100% confident that we could grow the number of CBNS-certified professional nutritionists exponentially if the pathway to certification is clearly delineated. I am committed to this mission and hope that support from my fellow CNS' will make it a reality.

It's time for a change. Let's work together to make the Certified Nutrition Specialist THE advanced degree credential for nutritionists.

Ginger Hodulik, M.S., CNS

ginger.hodulik@dsm.com

The Editors welcome unsolicited contributions, including letters, editorials and technical scientific articles (including the presentation of original research results) from Certified Nutrition Specialists and the general public (several such contributions are included in this issue). However, please note that the Editors reserve the right to edit all contributions for length.

**Fall 2010 dates for the CBNS pre-Certification Examination 2½ day Review Course
 (subject to change):**

Chicago IL October 8-10
 New York City NY October 15-17

Los Angeles CA October 22-24
 Dallas TX October 29-31



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Letter to the Editor --- From the Trenches

I am the Chair of the New York State CNS Council. Over the past 10 years as a CNS, I have not seen the national recognition we deserve as skilled health professionals. We need to use our CNS designation so the public becomes more aware of our existence. Many states are starting to license nutritionists; therefore, we need to make our presence known so we can exert influence on the process. With the strong need for prevention of illness to ease the burden of our health care crisis, the time has never been better to perpetuate this change. I am also hopeful that the **licensed healthcare professionals**, such as physicians, dentists, chiropractors, podiatrists, nurses, physician assistants and acupuncturists, who are CNS's will use their CNS status to help educate the public to the value of the nutrition advice we are able to provide.

I would like to see the formation of regional groups of CNS that meet a few times a year to discuss new developments in nutrition. Individuals interested in forming a local group should contact the CBNS. I believe this new decade will finally bring about a forced change in health care. Nutrition will no longer be marginalized as insignificant. **Please become active and share any thoughts you have that will help us to become more viable as a group.**

The need for nutrition care specialists is evident to me. I teach a course in Human Biological Nutrition and every semester at least five students suffer from illnesses such as Type 2 diabetes, hypertension and hypoglycemia - and they are only 19 to 27 years of age. When they learn about their bodies' physiology and biochemistry, they often make immediate changes and start their healing process. Our country needs the skills we possess now more than ever. I will end with this quote by Mohandas Gandhi, **"Be the change that you want to see in the world."**

Robert N. Femminella, M.S., MS, CNS

Professornf@optonline.net

Letter to the Editor --- A Word to the Wise: If You Don't Comply, Don't Complain

Recently, I was involved in a randomized, double-blind, placebo-controlled study on 80 subjects to determine if the oral intake of the fiber glucomannon caused fat loss over a two month period. At the completion of the study, when the data from all 80 subjects was included in the analysis, the subjects given glucomannon had gained an average of 0.2 pounds of fat and the subjects in the placebo group had gained an average of 1.1 pounds of fat. A reasonable conclusion is that glucomannon didn't promote weight loss – or did it?

At study completion, the participants were asked to complete an anonymous critique of the study that, among other items, asked how closely they followed the research protocol, i.e., how many tablets were actually taken each day and the timing of intake, irrespective of what they had reported during weekly check-ins. Only 40% of the subjects regularly took the right number of pills at the right time. When only subjects who complied with the protocol were included in the data analysis, it was determined that the group of glucomannon compliers *lost* an average of 2.5 pounds of fat. This contrasted with the compliers in the placebo group, who, on average, actually *gained* more fat: 2.8 pounds. What a difference!

How many investigators of "weight loss" studies have declared that the agent(s) under study did not work without fully considering the impact of noncompliance on their studies? It is my opinion that reliance on pill counting is a poor means to assure compliance. This raises the question concerning how many studies have reported a negative result for a weight loss oral preparation that was, in actuality, positive among compliers? (Another major problem in many of these studies is measuring weight loss but not determining fat loss. However, that's another story.) The above example concerning poor compliance is not only a good lesson for the investigator, but the practitioner can also learn much.

The lesson is this -- the best laid plans of mouse and man, in this case a "weight loss" program, will not be successful if there is poor compliance. Accordingly, you, the practitioner, must determine whether a "failed" program "failed" as a result of poor compliance – even a great program will not work satisfactorily unless it is carried out properly. The message to all patients who may be dissatisfied with their therapeutic programs is, "if you don't comply, don't complain."

Harry G. Preuss M.D., CNS, MACN

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Certified Nutrition Specialists – Class of 2009 and Spring Class, 2010

The Officers and Board of Directors of the CBNS wish to congratulate you upon earning the distinguished title: Certified Nutrition Specialist (CNS). We extend a special invitation to you to become involved in your organization and spread the word to your colleagues, clients, patients, students, legislators and the general public.

Class of 2009:

Larisa Alonso, MS
 Simin Naz Beg, MD
 Lena Bezman, MD, MS, MPH
 Josephine Brown, MD
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 Elizabeth Camp, ND
 Denise Canellos, MS
 Carol Chuang, MD
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 David Heber, MD, PhD
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 Ginger Hodulik, MS
 Carroll Stockton Jacobs, ND
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 Martha Pickard Palmer, MS
 Vincent E. Paolicelli, Jr., DC
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 Anne van der Voort, MS
 Kari Vernon, DC
 Joi Foss Vogin, MS
 Elyse J. Williams, MS
 David Zirkiyev, R PA-C

Spring Class, 2010:

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 Catherine Johnson Bogolub, MD
 Kara Carper, MA
 Mark Flannery, DC
 Joy Gill, MS
 Tom A. Gross, DC
 Kathryn L. Gunderson, MS
 Liang Guo, PhD
 Dan O. Harper, MD
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 Leonid Rozenbaum, MS

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 Micheline Vargas, DrPH
 Shelley Weinstock, PhD

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Nutrition and Herbal Medicine Review

In a series of articles I'll provide clinically oriented CNS with distillates of my over 60 years of study, research, and experience in Chinese herbal medicine. In many cases, herbal treatments can be both more effective and less expensive than current drug treatments, and can be used in conjunction with modern drugs to enhance each other's efficacy or to mitigate the side effects of modern drugs. -- Robert I-San Lin, Ph.D., CNS, FACN, FICN

Coptis chinensis Fran.

An Anti-inflammatory Herb

It is important to recognize that a number of species of herbs within the common genus, *Coptis*, are used in herbal medicine. Because each species exhibits specific properties, other species should not be confused with *Coptis chinensis* Fran. The rhizome of *Coptis chinensis* Fran. (Huang Lien; hereafter referred to as Coptis) is used in Chinese herbal medicine for treating a very broad spectrum of inflammatory conditions, particularly inflammations associated with bacterial infections. Coptis also is used to support healthy liver function, to prevent free radical damage from cytochrome P450 modifications of xenobiotics, or as a bitter flavor in food preparations.

Pharmacology: The main active principles of Coptis are alkaloids that constitute 8% to 10% of the herb by weight. The most important of these alkaloids are berberine (5% to 7%), coptisine, worenine, palmatine, columbamine, jatrorrhizine, epiberberine, berberastine, and groenlandicine. Oral doses of purified berberine or of a decoction of Coptis are absorbed rapidly through the buccal mucosa, esophagus, stomach, and intestines, with the active principles appearing in the bloodstream within 10 to 20 minutes.

After absorption, the active principles are distributed throughout the body, with the liver and pancreas having the highest concentrations, although the heart, kidneys, lungs, intestines,

stomach, muscles, and brain also accumulate significant amounts (only low concentrations appear in the blood). These active compounds and their metabolites are excreted through the kidneys starting 30 minutes after ingestion; but elimination is slow and it takes a few days to clear most of the ingested compounds.

At high concentrations (equivalent to over 0.5% of the herb in the culture media), Coptis decoction has a mild but very broad spectrum *in vitro* germicidal activity. At lower concentrations, it exhibits antibacterial activity against streptococcal bacteria (e.g., α - and β -streptococci, Fehleisen's streptococcus, hemolytic streptococci), *H. pylori*, staphylococcus, pneumococcus, *Vibrio comma*, several species of bacilli (*Bacillus dysenteriae*, *Sonne bacillus*, Shiga's bacillus, *Salmonella typhi*, *Bacillus paratyphosus*, *Pseudomonas aeruginosa*, *Anthrax bacillus*), and other Gram-positive and Gram-negative bacteria (including many antibiotic-resistant strains), several species of yeasts and fungi, and protozoa.

The effects of berberine and of Coptis decoction on the regulation of metabolism often are biphasic: stimulative at low to medium doses and suppressive at extremely high doses. Such biphasic effects are common among herbs. These effects include enhancement of *in vivo* phagocytotic activities of macrophages in lab animals, modulation of the central and peripheral nervous systems (e.g., of the acetylcholine pathway), and stimulation of cardiac output. In humans, Coptis decoction lowers blood pressure mildly and enhances blood perfusion in the

spleen, intestines and kidney, but without biphasic effects.

Coptis decoction (a) suppresses gastrointestinal hypersecretion of water and electrolytes induced by histamine or enterobacilli toxin, by modulating cellular cAMP level; (b) protects gastric mucosa against damage induced by aspirin and many other drugs and chemicals; (c) inhibits *in vitro* induction of platelet aggregation; (d) attenuates the release of arachidonic acid from platelets, and therefore suppresses thromboxane A₂ formation; and (e) reduces the risk for thrombosis.

Both Coptis decoction and berberine block α_1 and α_2 receptors and activate the β_1 receptor and Coptis decoction has exhibited a protective effect against ischemia-reperfusion damage. Numerous additional physiological effects have been attributed to Coptis decoction as the results of scientific studies, but neither each individual effect nor the sum of these effects can satisfactorily explain the medicinal benefits that can be obtained from the appropriate use of Coptis.

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CBNS Newsletter

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Editor-in-Chief

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Associate Editor

.. Michael J. Glade, Ph.D., CNS



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Nutrition and Herbal Medicine Review (continued)

Toxicology and Safety: Toxicity of oral doses of Coptis decoction should be very low because no reports of toxicity have been published. In lab animals, berberine has i.v. minimal lethal doses (MLD) of between 27.5 mg/kg to 250 mg/kg (this can be approximately but inaccurately extrapolated to an i.v. MLD of 2 g to 17 g of berberine, or 31 g to 261 g of the herb, in humans), and an i.p. LD₅₀ of 24.3 mg/kg to 205 mg/kg (again, approximately extrapolated to 1.7 g to 14 g of berberine, or 26 g to 215 g of the herb, in humans).

However, these data have little meaning in traditional herbal medicine, except to indicate a high degree of safety of the herb, because Coptis decoction is administered orally; through this route the active/toxic compounds are subject to first pass metabolism in the liver which buffers the body against acute toxicity. Rarely, nausea, vomiting, heartburn or diarrhea occur following the consumption of more than 12 g of the herb.

Contraindications: It is not advisable to use Coptis in high doses for individuals with “yin” deficiency, especially deficiency of “gastric yin” (these terms are hard for me to explain in modern scientific terms, especially in this extremely short article). It should not be used in high doses by individuals having poor digestion and Coptis is especially contraindicated for individuals with diarrhea or loose stools caused by poor gastric digestion or poor intestinal absorption (as opposed to infectious diarrhea).

How to use this herb: Coptis is indicated for a broad spectrum of inflammatory and bacterial infection-related conditions. For acute

conditions, Coptis often is prescribed (in amounts of 7 g to 12 g) as a part of a Chinese herbal formula consisting of 8 to 12 herbs (which the clinician prescribes specifically for a patient’s conditions at that moment). The formula is to be made into a decoction by boiling these herbs with water in a non-metallic utensil for 30 minutes. The decoction is to be consumed orally, either once daily or in two equally divided portions to be consumed 6 hours apart, or once every 2 or 3 days, depending on the severity of the conditions being treated.

Usually the formula is administered no more than 3 to 5 times, i.e., for no longer than a week; the formula should then be revised according to the changing condition of the patient. If the patient’s condition does not appear to improve substantially after 3 to 5 administrations, the treatment should be considered to have been ineffective and alternative treatments (e.g., revising the formula) should be sought. In severe and rapidly evolving diseases, such an option must be considered sooner, e.g., daily.

In the usual dose range (7 g to 12 g daily), Coptis can be used alone, in a less sophisticated and less effective manner; this is particularly useful to clinicians lacking expertise in Chinese herbal medicine. Often, Coptis is administered to patients with gastritis or enteritis caused by allergy, metabolic derangements, or bacterial infections; whooping cough; bronchitis; diphtheria; generalized systemic bacterial infections (used in very high doses with other herbs); fever; and more chronic conditions such as low grade and chronic inflammation of the gallbladder, Crohn’s disease, and ulcerative colitis. In most cases, Coptis provides combined anti-inflammatory, immunomodulating and antibacterial benefits

(although it is not as effective as modern antibiotics and should be administered in conjunction with an antibiotic if an active infection is present.).

Coptis decoctions at a concentration of about 25 g to 50 g per half liter of boiled water can be used for external topical applications, e.g., in cases of burn, dermatitis, conjunctivitis, vaginitis (caused by bacteria or trichomoniasis), cervicitis, or vulvitis, often in combination with boric acid or Na/K borate (except in the case of burns). For short term treatments, the usual amount of Coptis decoction can be administered in conjunction with modern antibiotics or anti-inflammatory drugs (NSAIDs or corticosteroids) with enhanced efficacy but with little risk of aggravation of the side effects of such drugs.

Traditionally, Chinese herbal medicine recognizes Coptis as a “cold” herb and uses it to treat “hot” conditions. These terms are difficult to explain in the context of Western scientific concepts. However, “hot” conditions are frequently inflammatory and “cold” herbs are frequently anti-inflammatory. Modern medical practice has used extremely high doses of Coptis extracts (up to 60 g herb equivalence per day), administered orally or via the injection of sterile extracts, to treat many diseases with prominent efficacy. However, these practices must be considered nontraditional and the safety of such uses is not established. Coptis powder can replace traditional decoctions; however, in this case the clinician is deprived of the cumulative knowledge derived from thousands of years of use of the decoction form.

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Nutrition and Herbal Medicine Review (continued)

Availability: Coptis is sold in most Chinese grocery or herb stores, \$10 to \$15 per pound, in the form of intense golden yellow colored, dried slices of the crooked rhizomes, about 2 cm to 3 cm long, 2 mm thick, and 3 mm to 4 mm wide. Coptis powder is available at only a few importers, e.g., Mayway Co. (800-262-9929, fax 800-909-2828) at a slightly higher price.

The above “distillation” of my many years of experience and research is provided for educational purposes only.

Clinicians who want to learn to use the herb must first try it on themselves, starting with a decoction of 2 g, once daily, in order to develop a feel for its safety and potential side effects. (Please note: It’s very bitter!) At doses of around 7 g to 9 g daily, the nutritional and pharmacological benefits can be demonstrated readily in individuals needing them, but these effects can be difficult to demonstrate in seemingly healthy individuals who do not need treatment.

After gaining an understanding of the herb, an interested clinician may try to use Coptis clinically, although with great caution before one becomes familiar with its use (particularly when administering it in conjunction with high doses of modern drugs) because patients’ conditions and responsiveness to herbal therapies can vary substantially. (Copyright Dr. Robert I-San Lin. 2010. With the right granted to CBNS for use in its newsletters.)

Excerpted from the recent literature:

“*Oxidative Stress and Cognitive Longevity*” by Michael J. Glade, Ph.D., CNS, FACN

High demand for ATP within central nervous system neurons generates local oxidative stress within activated areas of the brain, characterized by “mitochondrial uncoupling” – the transfer of free electrons through the mitochondrial respiratory chain becomes inefficient and uncoupled from ATP regeneration and can induce peroxidation of mitochondrial membrane lipids, reducing the electrochemical charge difference across the inner mitochondrial membrane (the “mitochondrial membrane potential,” $\Delta\Psi_m$), opening the mitochondrial permeability transition pore and initiating ion and water intrusion into the mitochondrial matrix space (producing mitochondrial swelling) followed by rupture of the outer mitochondrial membrane and biochemical cascades that can culminate in apoptotic cell death if not forestalled. Fortunately, such intense aerobic metabolism upregulates the expression of transcriptional regulators and co-activators that initiate biogenic cascades which ultimately produce increased mitochondrial density per neuron and increased rates of electron transfer and ATP regeneration per mitochondrion....

The opposite of cognitive aging, *cognitive longevity* requires the establishment and maintenance of systemic oxidative balance. The contribution of dietary constituents to the continuation of cognition into the twilight years cannot be overstated. In addition, demand-regulated mitochondrial biogenesis is accompanied by upregulation of endogenous neuroprotective mechanisms. These defenses can be augmented by dietary supplementation with specific antioxidant and neuroprotective nutrients. Nonetheless, when endogenous and exogenous neuroprotective antioxidant and biogenic responses are overwhelmed by oxidative stresses, processes of mitochondrial decay and neurodegeneration ensue that are reminiscent of those that accompany cognitive aging. On the other hand, maintenance of redox balance within the central nervous system can forestall cognitive decline and promote cognitive longevity....

(Excerpted from: Glade MJ. Oxidative stress and cognitive longevity. *Nutrition* 2010;26:595-603. The full text is available from Dr. Glade; please e-mail requests to him at CBNSoffice@nutritionist-certification-board.org.)



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