
MWSHS Student Newsletter

Spring 2022

MWSHS Alumna Profile

Michelle Konkle

“I grew up with the woods in my backyard and I have always been interested in plants and the natural world,” Michelle Konkle recollects.

“I graduated from the University of Wisconsin-Madison with a degree in botany. I was also drawn to pharmacy work with an interest in helping people heal. In fact, I had been working as a pharmacy technician for 23 years when I started the program with MWSHS.”

But what prompted Michelle to want to study herbalism in such depth?

“Stressful situations in my life had caused digestive and nervous problems to come on full force in my body,” she relates. “Because of my sensitivities to pharmaceutical medications, I decided to try some herbs to help my nervous system to calm down instead. My success in finding remedies that worked well for me placed me on a path of learning about herbalism.”

Michelle studied hard and excelled in her lesson work with MWSHS’ Western Herbalism program. Yet, how did she prove so successful? She explains: “The study questions helped me to concentrate on the lesson in a focused way and to learn what was important. Having a set schedule to study and having a reading goal every week helped immensely. In the beginning, I divided the reading material up and decided how many pages I would have to read per week to finish the course in a timely manner.”

Michelle adds here: “I find that having the personal experience of touching, smelling, and tasting the herbs out in the environment they are growing in brings its own beauty and rewards. The course has helped me on so many levels to bring me back into nature, to be curious, and to understand our relationship with these plants on a much more personal level.”

After having achieved her Western Herbalism certificate from MWSHS in 2020, Michelle quit her job as a pharmacy technician and started a business selling organic herbs and consulting. *(Continued in column 2.)*



Early 2022 Graduates

We offer congratulations to the following recent graduate of the Master-Herbalist Diploma Program:

Sherry LiaBraaten

We offer congratulations to the following recent graduate of the Asian-Herbalism and Integrative-Herbalism Modules:

Stephanie Davis

We look forward to hearing more from these graduates as they continue to apply what they have learned in their lives.

**Register Now for Our
Herbal Therapeutics Workshop**

May 22nd, 2022

See Page Two

Michelle Konkle Profile *(continued from column 1)*

“You can see from my picture that I was so happy to put up my sign and be able to open the doors of my business, which is called Chi Health Herbs and Natural Wellness, located in Sauk City, Wisconsin. (The business website is www.chihealthsaukcity.com.) None of it would have been possible, however, without having taken the course with MWSHS. Now that I have started my herbal shop and consulting business, I can see the confidence that I have gained in my ability to help people in a natural way, as I have wanted to do for so many years. I now look forward to helping clients to achieve their pinnacle of health.”

Michelle has a long-term goal, too: “Eventually I would like to move back out to the country where I can build a botanical and herbal garden. I would love to teach people about the herbs in their natural environment and to do consulting from home.”

We think that many of our students might share that same worthy goal, Michelle, as do we here at MWSHS!

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WORKSHOP CREDIT OPTIONS

Except where noted, all of the below-listed events qualify as Workshop credits toward the Master-Herbalist program. Each hour of *verified* attendance (e.g., per instructor-completed workshop-credit slips as supplied by MWSHS) counts toward an equivalent hour of Workshop Category #3 credits (up to the student limit of 20 hours), unless another category is specified or unless one attends a particular workshop at one of these events that is *strictly* in one of these other categories. *Note that our allowance of online conferences for workshop credits continues through Spring of 2021, owing to continued COVID restrictions for assemblies.*

Workshops, Conferences, Lectures, & Events in Herbal Studies Across North America

2022 Spring Herb Seminar. **Online.** *May 12-14, 2022.* This herbal medicine-focused conference will feature presentations from experts drawing on ample clinical experience. Subjects to be discussed will include herbal medicine strategies for cardiology, neurology, gastroenterology, autoimmune conditions, and more. For more info or to register, <https://restorativemedicine.org/conferences/2022-spring-herb-seminar/>

"Where Do I Find Qualifying Workshops in My Local Area?"

Aside from the *MWSHS Student Newsletter*, which lists resources from around the country of which we become aware, you can check holistic newspapers that are available in many larger cities. In these areas, as well as in less populated communities, you might check local, independently-owned health food stores and food co-ops, which may have bulletin boards or knowledgeable staff who may be aware of local teachers of holistic-assessment skills, herbal-medicine-making, or who may lead wild-plant walks. (Local nature centers, plant nurseries, greenhouses, horticultural clubs, and native-plant-appreciation societies may know of local wild-plant-walk instructors as well.) Finally, check the phone book for local naturopaths, herbalists, acupuncturists, and other holistic-health professionals who may be willing to mentor you on some of these skills or allow you to "shadow" them as they see clients.

Botanical Allies to Support Seasonal Immune Needs. *May 18, 2022.* **Online.** This webinar will explore the needs of an optimum immune system, how its needs change with the seasons, and how botanicals can address antigen load, repair mucus-producing tissue, and equilibrate the endocrine system. Herbs to be discussed will include turmeric, green tea, garlic, milk thistle, and more. Conducted by Valerie Green and Dr. Mary Bove, ND. For more info or to register, visit <https://www.bigmarker.com/gaia-herbs/51822>

MWSHS' "Herbal Therapeutics" Workshop for 2022. *May 22nd, 2022.* 1:30 - 5:30 PM. **New Brighton, MN.** \$45 (only \$40 if early-bird registration). Join Director Alfs as he presents his beautiful color slides of healing plants not available on the herb market and tells you where to find them, how to harvest and process them, and how to use them to facilitate healing! We will be making tinctures (with an herb of your choice) and teas (from non-marketed herbs, as described above). Register on the MWSHS website or call in (651-484-0487) or mail (P O Box 120096, New Brighton MN 55112) your registration and payment.

Medicines from the Earth Herb Symposium. *June 3-6, 2022.* **Black Mountain, NC.** This conference will feature over 30 expert-led talks, field studies, herb walks, and a pre-conference intensive centered on educating attendees on botanical medicine and how to use it. See www.botanicalmedicine.org for more info.

Botanica Festival. *June 17-19th, 2022.* **Lafayette, CO.** This ethnobotany-themed event will bring herbalists together to take part in hands-on workshops exploring and celebrating plants and the important role they have had in art, medicine, food, culture, ritual, and spirituality. For more info or to register: <https://www.botanicafestival.com/>

33rd Annual AHG Symposium, *October 21st-24th, 2022.* **Bethesda, MD.** Featuring classes, panel discussions, world-class keynote speakers, and a vendor fair—all geared to the herbal community. The theme of this year's Symposium, "Energetics of Herbalism," explores the ways herbalism is expanding and evolving as we respond to changes in the world around us.

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D-Ribose

(Part Four of a Series on Nutraceuticals)

by Matthew Alfs, MH, RH (AHG), MWSHS Director

What Is D-Ribose?

D-ribose (also known as D-furanose) is a pentose sugar (a 5-carbon monosaccharide) in the cells of our body—and particularly in their mitochondria—that is involved in the production of energy intermediates such as adenosine triphosphate (ATP), NADH, and FADH, enabled through its binding to various nucleic acids. It is also an important component of RNA (including transfer DNA, ribosomal DNA, and messenger RNA). Ribose is present as L and D enantiomers; however, the former is unstable and hence D-ribose is the primary functional isoform of ribose.

Supplemental Sources & Safety of D-ribose

D-ribose is available on the supplement market, both in a powdered form and as capsules. The powder is sweet tasting and, in the opinion of many (myself included), delicious! It is typically dosed between 5 and 30 grams a day, depending on the reason for its supplementation. In a clinical trial to assess long-term safety, 19 healthy persons volunteered to take 10 g, bid. When measurements of key analytes (CBC, alkaline phosphate, GGT, ALT, and AST) were made on days 0, 7, and 14, no significant negative effects were found. The study authors concluded that it did not produce any significant toxic changes, although there was an affectation on blood glucose (a mild hypoglycemia) of very short duration and a slight rise in uric acid levels that returned to normal by the end of the study period.—Seifert J, et al. 2008. *J Int Soc Sports Nutr.* 5:13.

D-Ribose Functions and Benefits

Supplemental D-ribose has been shown to improve cellular processes when there is mitochondrial dysfunction. It assists in the production of ATP through the pentose phosphate pathway (PPP), an alternative to the primary pathway fueled by glucose. It thereby increases phosphoribosyl pyrophosphate (PRPP), the precursor for *de novo* ATP synthesis and leads to an enhanced production of myocardial adenine nucleotide biosynthesis.

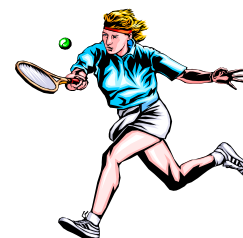
Theoretically, increasing adenine nucleotide availability could enhance high intensity exercise capacity. To test this supposition, a number of clinical trials have been conducted. While those trials involving healthy subjects have typically not yielded significant benefits for D-ribose supplementation over placebo, results have been quite different when trial participants had existing cardiovascular issues, such as detailed below...

Clinical Applications of D-Ribose

Myocardial Ischemia /Coronary Artery Disease

Myocardial ischemia occurs when blood flow to the heart is reduced, which can occur from a partial or a complete blockage of, or spasm in, the coronary arteries, so that the heart muscle does not receive enough oxygen. A depression in myocardial tissue levels of high-energy compounds (preeminently ATP) occurs and the heart's ability to distribute blood is reduced. Myocardial ischemia can precipitate a heart attack or even a serious abnormal heart rhythm.

It is known, however, that myocardial adenine nucleotide precursor availability is an important limiting factor in the recovery of myocardial ATP post-ischemia. Not surprisingly, then, human and animal studies have demonstrated that D-ribose can help replenish deficient cellular energy levels following myocardial ischemia, as well as improve depressed cardiac function overall. In a 1992 study, W. Pliml and colleagues investigated the effects of oral D-ribose in 20 persons with coronary artery disease. First, the participants underwent treadmill tests. Then, each patient was given 60 g of either D-ribose or placebo, in four divided doses, for 3 days. On day 5, the treadmill test was repeated. The result was that the D-ribose group demonstrated increased treadmill exercise time before the onset of angina and/or the development of ischemic electrocardiographic changes during the exercise.—Pliml Wet al. 1992. *Lancet.* 340:507–510.



In a 2007 study, 143 persons with coronary artery disease—66 of whom had presented with myocardial infarction—underwent revascularization with off-pump cardiopulmonary bypass surgery. Cardiac indices were determined before and after revascularization and all of the patients received oral doses of D-ribose. Quite significantly, 43% of these patients showed an increase in their cardiac indices, which compared favorably to a historic increase of only 13% in such a situation. (Perkowski, D. et al. 2007. *J Card Surg.* 22[4]:370-1) Then, in a randomized, double-blind, crossover clinical trial comparing the effects of infused D-ribose and placebo on regional wall motion, D-ribose improved contractile responses to dobutamine in viable myocardium with resting dysfunction in patients with ischemic cardiomyopathy.—Sawada S. et al. 2009. *Cardiovasc Ultrasound.* 7:5

Congestive Heart Failure

In that research has shown that there is a direct relationship between inadequate myocardial ATP levels and the development of congestive heart failure (CHF) in its ventricular diastolic form, several studies have been performed to determine if supplementary D-ribose could be of benefit in CHF.

One of the earliest of these was a prospective, randomized, double-blind study published in 2003 in which 15 patients with NYHA class II and III CHF and coronary-artery disease were given either D-ribose or a placebo, each at a dose of 5 g, tid, on a daily basis for three weeks. After a hiatus of one week, the patients switched what they had been taking to the alternate type of supplementation (i.e., ribose to placebo and placebo to ribose) for an additional three weeks. The outcome was that in the treatment group only there was a significant improvement in quality of life as well as improvement in certain cardiac parameters—particularly, a shortened E-wave deceleration, an improvement in the atrial contribution to left ventricular filling, and a smaller atrial chamber size.—Omran H, et al. 2003. *Eur J Heart Fail.* 5(5):615-9

The year 2005 saw two published clinical trials demonstrating the benefits of D-ribose in CHF patients. In the first of these, supplementation of D-ribose in 14 NYHA Class II-III CHF patients with left ventricular dysfunction significantly maintained their maximal volume of oxygen (VO₂max), concordant with a maintenance in maximal exercise capacity, as well as improved their ventilatory efficiency—powerful predictors of survival. The subjects also experienced improvement in their quality of life measurements (Carter, O. et al. 2005. *J Am Coll Cardiol.* 45:185 abstr). In the second of these, D-ribose was studied in a trial of NYHA Class II-IV CHF patients. In this study, significant improvements in ventilatory efficiency were observed in the Class III-IV patients only, while the Class II patients achieved improved ventilatory efficiency that was not determined to be statistically significant.—Vijay, N. et al. 2005. *J Card Fail.* 95 abstr.

An interesting study was published in 2009 wherein 16 patients with NYHA class III-IV heart failure took 5 g of D-ribose, tid, for eight weeks and were assessed for VO(2), tidal volume/VCO(2), and heart rate/tidal volume. The welcome result was that every one of these participants manifested a significant improvement in ventilatory exercise status! (MacCarter D. et al. 2009. *Int J Cardiol.* 137[1]:79-80) Coming to 2015, we encounter a study by Ohio State University researchers wherein 11 patients with NYHA Class II-IV heart failure and clinical symptoms, but with normal left ventricular systolic function and diastolic dysfunction, were given only 5 g of D-ribose daily for six weeks. Sixty-four per cent of these patients



achieved improvements in cardiac function (tissue Doppler velocity [E']), which were still present three weeks after the end of the trial. Five patients also showed an improvement in their early diastolic filling velocity (E) to early annulus relaxation velocity (E'), while four manifested improvement in their maximum predicted VO₂ values.—Bayram, M. et al. 2015. *Ther Adv Cardiovasc Dis.* 9:56–65

The general conclusion from these clinical trials and from some animal studies with similar results is that D-ribose helps replenish deficient ATP levels in subjects with CHF. More precisely, its supplementation enables the cells to bypass a key metabolic enzyme needed for the production of ATP and to assist the failing heart to produce energy and thus to reduce diastolic dysfunction.—Krueger, K. et al. 2021. *Ann Transl Med.* 9(19):1504

Chronic Fatigue Syndrome & Fibromyalgia

Chronic fatigue syndrome (CFS) and fibromyalgia syndrome (FMS) are two increasingly common chronic health conditions that are quite disabling to sufferers. Both conditions cause mind-boggling fatigue; sleep issues with an unrefreshed awakening; cognitive issues (brain fog and memory impairment); depression; hypersensitivity to light, sounds, and smells; a greatly reduced quality of life; and, in the case of fibromyalgia in particular, intense myofascial pain.

Published studies have found pronounced benefits with the use of D-ribose in these sufferers. In 2004, as one example, a report was published in the medical journal *Pharmacotherapy* about a subject with fibromyalgia who took 5 grams of D-ribose, bid, along with her prescribed medication. The upshot was that this treatment greatly reduced her symptoms, which recommenced one week after she discontinued the D-ribose.—Gebhart B, Jorgenson J. 2004. *Pharmacotherapy.* 24:1646-8)

A pilot study on the benefits of D-ribose for CFS and FMS patients was published in 2006, with one of the authors being Dr. Jacob Teitelbaum, author of *From Fatigued to Fantastic*, one of the seminal books on CFS/FMS. In this study, 41 patients with fibromyalgia and/or chronic fatigue syndrome were given D-ribose supplements at a dose of 5 g, tid The end result was that two-thirds of the patients showed significant improvement in symptoms—including pain, lack of energy, and sleeping difficulty. (The average increase in energy was 45% and the average improvement in overall well-being was 30%.)—Teitelbaum, J. et al. 2006. *J Altern Complement Med.* 12:857–862.

It should be noted that this was an uncontrolled, open-label, pilot study and therefore not to be given the weight of a controlled clinical trial. That being said, however, a 2017 review of supplements used for CFIDS and FMS seems to have found the results of this study to be intriguing. (Jones K, Probst Y. 2017. *Aust N Z J Public Health* 41:338–344) Moreover, in my own clinical practice of now more than a quarter of a century, I have recommended D-

ribose to hundreds of FMS or CFS clients, along with a number of other supplements. When these clients have followed up, they have more often than not commented that the D-ribose seemed to have been the supplement that helped them the most—especially with their energy levels.

Why, though, does D-ribose positively impact persons afflicted with fibromyalgia? This is thought to relate to the widely held understanding that skeletal muscle energetics—most prominently ATP levels—are perturbed in sufferers. Indeed, a number of researchers have found a mitochondrial imbalance in these folks, characterized as well by a consistently depressed level of coenzyme Q10.

Restless Leg Syndrome

Restless leg syndrome (RLS) is a movement-dominated sensory nerve condition that causes involuntary movement of the lower limbs when at rest. When occurring during the night, it can markedly interfere with deep, refreshing sleep. As such, it can severely impair a person's overall quality of life.

According to a clinical report in *the Journal of Complementary Medicine*, when a father and a son who both suffered from RLS took 5 g of D-ribose, tid, for three weeks, the severity and the onset of the symptoms that adversely affected their quality of life were significantly diminished: the daytime symptoms were eliminated entirely and the nighttime symptoms were less intense and had a later onset. (Shechterle, L. et al. 2008. *J Altern Complement Med.* 14:1165–1166) However, although the authors urged further study and large, controlled trials, no efforts seem to have been made in that regard by any researchers since this study was published.



Conclusion

I hope you have found this article on the amazing D-ribose to be of interest and of value! It is certainly a supplement that I appreciate greatly.

Zoom Topic Sessions Have Begun!

In April, we held the first of many Zoom Topic Sessions to come. This was on the theme of “Long-COVID Syndrome: Etiology and Therapeutics.” This two-hour session was capped by a 31-page handout on the herbs, nutrients, and nutraceuticals that were discussed during the session.

Our hope is to offer these sessions once every 2-3 months. Future topics and dates will be announced via our *Interim Student Newsletters*. One soon-coming topic, for sure, will be “Migraines and Other Headaches.” Stay tuned for details!

Your Thesis: Which Topic to Choose?

As all students enrolled in our Master-Herbalist Diploma Program are no doubt aware, a thesis is required for completion of this Program. In this regard, many students have expressed concern about which topic to choose for the thesis. We say here: “Choose one for which you have a real passion—for both learning and sharing!”

For example, one of our students has a family member challenged by autism and so she chose for her topic “Understanding Autism and Implementing Herbal Allies.” Another, who cares very much for animals, opted for the theme of “Botanical Remedies for Animals.” Still another, who has a relative in the military and who witnessed the stresses that deployment and its aftermath produces, entitled her thesis: “Coming Home: Using Herbal Therapies to Ease Post-Deployment Adjustments.”

Do you have a great interest or love for a particular herb? In this regard, one of our students produced a lovely thesis on “Plantain: A Stellar Herb.” Another, who lives in Texas and who is enamored of plants in that region, presented a thesis on “West Texas Plants: An Integrative Survey of 50 Acres in the Trans-Pecos Region.”

Or perhaps your passion is for a particular herbal tradition? In that regard, one of our students wrote a most informative treatise on “Tree Medicine of the Ojibwa.” Another did her thesis on “Sacred Herbs of the Anglo-Saxons and the Way of the Warrior.”

We hope that the above thoughts help guide you in your thesis choice.

Obituary: Senator Orrin Hatch, co-author of DSHEA

It is with great sadness that we note the passing of Senator Orrin Hatch, who—along with Senator Tom Harkin—sponsored the monumental Dietary Supplement Health and Education Act (DSHEA) that gave the public unfettered access to dietary supplements in 1994 and established a rational framework for regulating them. You can read more about his vitally important work in support of DSHEA at the following links:

https://www.nutraingredients-usa.com/Article/2022/04/25/A-titan-of-the-Senate-Supplements-industry-pays-tribute-to-Sen.-Orrin-Hatch?utm_source=copyright&utm_medium=OnSite&utm_campaign=copyright

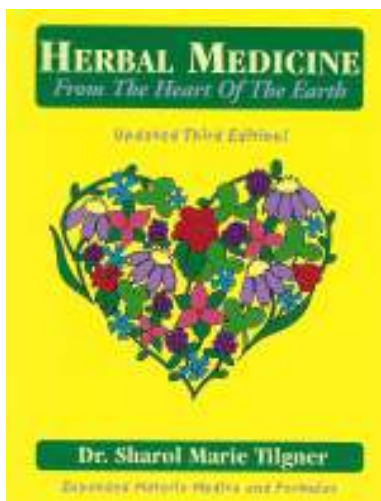
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Book Reviews

Tilgner, Sharol. *Herbal Medicine from the Heart of the Earth*, 3rd Edition. Ed. Louis Fiore (Wise Acres LLC, 2020), softcover, 472pp.

This power-packed volume begins with an excursus on the Properties and Actions of Herbs and then moves to a Dictionary of Herbal Preparations. Next comes the heart of the book—a 176-page *Materia Medica*, jam-packed with 926 references to scientific studies. This is followed by a 182-page section on well-constructed herbal formulas for specific body systems. (One welcome feature here is that she gives percentages for each ingredient in the formulas—something I haven't seen done much since the days of Ed Smith's *Therapeutic Herb Manual*.) Next comes a 2-page section on Dosages, followed by an excellent and well-illustrated 32-page section on How to Make Herbal Preparations.

This is Tilgner's third edition and second revision of her original work by this title published in 1999. (The second edition was published in 2009.) The improvements in this edition, however, make both of her previous editions obsolete.



Wise Woman Herbals, an herbal tincture company, from 1988-2002. (I remember talking with her about some of her products circa 2001, when I was practicing in a university-owned clinic; I still use the company's products today.) Tilgner was also an associate editor of herbalist Paul Bergner's remarkable *Medical Herbalism* journal and so it comes as no surprise that her book carries a glowing (and well-deserved) Foreword by Bergner.

MWSHS students will assuredly want to add this attractive volume to their respective home libraries.

Tilgner is an herbalist, organic farmer, and naturopathic doctor who graduated from the National University of Naturopathic Medicine (Portland, OR) in 1999. She was the founder and past owner of the Pacific Northwest Herbal Symposium, as well as the founder of the NW HerbFest. She also founded and owned

Bellebuono, Holly. *An Herbalist's Guide to Formulary: The Art and Science of Creating Effective Herbal Remedies*. (Llewellyn Publications, 2017), softcover, 363pp.

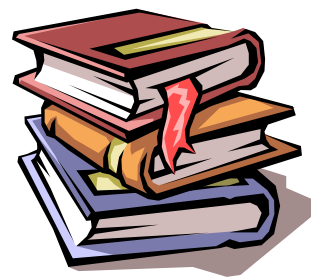
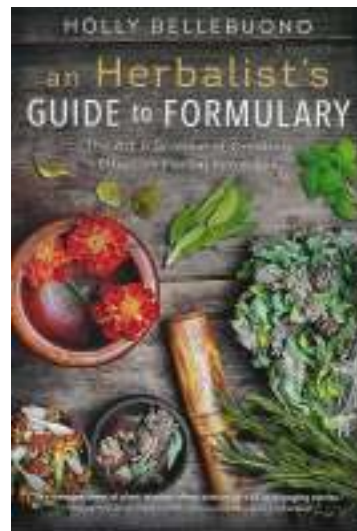
There are not many good books available on herbal formulation. This one, by long-time herbalist Holly Bellebuono, helps to fill that gap. It is a recent—and indeed most welcome—addition to my 4,000-volume library.

It begins with an insightful history of herbal formulary. This is followed by discussion of a 4-tier formula structure (a structure that I use to craft my own formulas). The book then goes on to present formulas for the various body systems. It rounds out with appendices on herbal actions, phytochemicals, tonics, and even a United Plant Savers list.

While all of the formulas evince thoughtful construction, my own take is that those for women's health—an especial focus of her practice, I would venture to guess—are perhaps the most skillfully crafted, and prompted me to take some notes.

This book is endorsed by two well-known herbalists—David Hoffmann and Amanda McQuade Crawford—which surely must not have hurt in nudging this fine title into a 4th printing in only four years.

Bellebuono has written six other books, including perhaps her best-known title, *Women Healers of the World: The Traditions, History & Geography of Herbal Medicine*, a seven-year project of interviews and research that was awarded The Thomas DeBaggio Book of the Year 2015 by The International Herb Association.



We print below some workshop credit slips for workshops that you may take from other teachers

WORKSHOP CREDIT SLIP

Workshop Title:.....

Workshop Date & Total Hours

Workshop Presenter & Credentials.....

Workshop Presenter's Signature & Date.....

Student Name..... Student I.D. #.....

When completed and signed by workshop instructor, make a copy for yourself & submit to:

Midwest School of Herbal Studies, P. O. Box 120096, New Brighton MN 55112

Or image and send as an email attachment to MWSHS@aol.com

(For Internal Use Only:) Credits Assigned.....Director's Signature.

WORKSHOP CREDIT SLIP

Workshop Title:.....

Workshop Date & Total Hours

Workshop Presenter & Credentials.....

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Student Name..... Student I.D. #.....

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