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SOUTH DAKOTA PHARMACIST



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2011 Convention Information

South Dakota Pharmacists Association

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"The mission of the South Dakota Pharmacists Association is to promote, serve and protect the pharmacy profession."

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Please note: If you are not on our mass e-mail system check our website periodically for district meetings and other upcoming events. They will always be posted at: <http://www.sdpha.org>.

January

- 1 New Year's Day
- 11 Legislative Session Begins
- 17 Martin Luther King, Jr. Day

February

- 1-2 SDPhA Legislative Days: Pierre, SD**
- 14 Valentine's Day
- 21 President's Day

March

- 13 Daylight Saving Time Begins
- 17 St. Patrick's Day
- 25-28 American Pharmacists Association Annual Meeting (APhA)
Washington, DC

April

- 1-2 SD Society of Health-Systems Pharmacists (SDSHP) Annual Meeting
Rapid City, SD
- 24 Easter Sunday

May

- 26-28 ASCP'S Midyear Conference and Exhibition
Phoenix, AZ
- 30 Memorial Day

June

- 3-5 **SDPhA 125th Annual Convention**
Sheraton Hotel & Convention Center, Sioux Falls SD

Cover Photo by Karen Mahoney

For more information on Karen's work, please contact her at kjmahoney@wildblue.net.

SOUTH DAKOTA PHARMACIST

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PRESIDENT'S PERSPECTIVE



Earl Hinricher
SDPhA President

Happy Holidays,

Just eleven miles south and seven miles west of Huron, South Dakota is the small community of Alpena. Warren J. Page of Alpena had a drug store he opened in the community in 1881. According to our "History of Pharmacy in South Dakota", he reported to the 1921 convention that during this time there was no Board of Pharmacy, no State Sheriff, no narcotic laws, and no special taxes. He stated: "We were simply turned loose to do an unrestricted business. I remember with feelings of pride I placed a gold leaf mortar and pestle on a post in front of my store and how the glass show bottles filled with colored solution placed in the windows were in my mind things of beauty as well as necessary advertisements. The glass labeled shelf bottles were well placed to the front of the store so that a wayfaring man need have no doubt as to the identity of the place. The cash register was represented by the money till with the bell, and a boy on horse back took the place of a telephone. One of my doctors made many of his calls with a high wheeled bicycle."

A Polk Directory for Minnesota and Dakota Territory, 1882-1883, Volume 3, listed 75 drug stores located in 45 cities and towns within the South Dakota part of the Dakota Territory in 1882.

A big thank you goes out to all who got on the band wagon in October this fall to promote pharmacy and your profession. Our theme continues to be "Know Your Medicine, Know Your Pharmacist". I did several presentations for service clubs in the Huron area, all of them ending on a note about this theme.

Many of you have become active in immunizations. The public appreciates your involvement in this activity. There was a time when immunizations were only offered at your local health care clinic. As a pharmacist providing flu vaccination clinics at your pharmacy and businesses offering time for employees to get vaccinated, more people are getting immunized with the flu vaccine each year.

Additionally, we still have plenty of work and discussion to be completed on enhancement and clarification of immunization rules and laws in South Dakota.

I enjoy Pharmacy Days at South Dakota State University in Brookings each October. It is an excellent time to visit with students and discuss their plans for the future. With the job market tightening up a bit, I tend to get more questions about residency programs. Is it a worth while option? It all depends on the student and their path. Will the program provide you with the knowledge and tools you will need in your pharmacy practice?

Thank you to our Executive Director, Sue, for getting us involved in the Health Care Policy Panel meetings around the state. We were invited to partner with American Association of Retired Persons, American Heart Association, and American Cancer Society to meet and brief legislators. We talked to them about our current issues. We had many questions posed to us about drug disposal and the future Prescription Drug Monitoring Program.

We continue to plan for the 2011 Convention in Sioux Falls. Our preliminary agenda covers topics of interest for pharmacists regardless of your practice location. We are getting a number of inquiries about pharmacy audits which affects all practice locations. Many of our businesses have entered into agreements years ago to provide services. Many us probably don't remember much of the fine print or recall our responsibilities and our rights.

Once again, the Holiday Season is upon us. It is a time of friends and family, a time of fellowship and a time of reflection. It is a time to count our blessings this past year. And a time to remember those we lost over this past year. Take some time from your busy schedule and enjoy the holiday programs in your communities.

Take care during your travels and I hope to see you next year,

Earl Hinricher, SDPhA President

DIRECTOR'S COMMENTS



Sue Schaefer
Executive Director

Happy New Year to All!

I hope the New Year finds you all healthy and happy and ready to embrace a new year of challenges, changes and successes in the pharmacy world.

We will be celebrating 125 years of pharmacy in South Dakota when we get together in June. Isn't it amazing how far you've come? As I enjoy the historical tidbits in Harold Schuler's history book, one common thread runs through the entire timeline...how caring and compassionate pharmacists really are. It's always been about the patient, and how pharmacists felt the need to care for patients as they lead them back to health. Is it any wonder you're one of the top most trusted professionals in the world? It shouldn't come as a shock to any of you. The reason you entered this profession was a noble one...to care for those who needed healing. I'm looking forward to the next 125 years to see where you'll take me!

I recently had the honor, as your representative, to join the American Association of Retired Persons (AARP), American Heart Association (AHA) and the American Cancer Society (ACS) as they traversed the state to meet with lawmakers this past month. What a wonderful opportunity to share information about all of you and the good work you do! I also learned a great deal about some of our health care partner associations. A huge win-win for pharmacy! I look forward to joining them again in the future if it works out. Many lawmakers commented to me about the faith they place in their local pharmacist and truly understand what you do for them.

Legislative Days is schedule for February 1st and 2nd. Please plan to attend this important event! We have word that over 80 students have signed up to come to Pierre to watch laws that most assuredly will impact pharmacy in some way, be studied. It would be wonderful if we could match their anticipated attendance with pharmacists and techs too! To register, just send me an email at sue@sdpha.org or give us a call at 605-224-2338. We hope to see you in Pierre in February!

The agenda has been set for our 125th Annual Convention, June 3-5 in Sioux Falls. We have included a dynamic lineup (see proposed agenda within the pages of this issue) for you and hope you **plan now to attend**. Rooms have been secured at the Sheraton Hotel and once again we've hit the Mother Lode with the event falling on Rib Fest weekend! If you have any questions, feel free to contact our office. More information will be forthcoming as we continue to plan our big celebration.

Switching gears...regarding the seriousness of the state's budget situation, we are hearing discussions are underway about possible cuts to Medicaid providers. I promise to share any and all information when/if the time comes for that discussion and/or action, so stay tuned.

As always, our door is always open and we're here to listen to your thoughts, suggestions, and concerns. Thanks for your continued support!

Warmest Regards,

Sue

SOUTH DAKOTA BOARD OF PHARMACY



Ron Huether
Executive Secretary

NEW BOARD MEMBER

Governor Mike Rounds recently appointed Lisa Rave to serve a three year term on the Board of Pharmacy. She replaces Steve Statz who served on the Board since 1996. Lisa is currently the Pharmacist-in-Charge & Clinical Pharmacy Manager at CIGNA Home Delivery Pharmacy in Sioux Falls. Prior to joining Cigna over six years ago she worked as a pharmacist for a retail chain pharmacy in the Sioux Falls area. Lisa earned degrees from the SDSU College of Pharmacy (BS, 1990) and the University of Sioux Falls (MBA with a Healthcare Concentration, 2008). She serves as a Director for Heartland Consumers Power District in Madison, SD. She is married to Tim Rave and has two children, Thea & Mitch. Her hobbies include: reading, music (listening, singing, playing piano) and riding dirt bikes.

NEW REGISTERED PHARMACISTS

The following candidates recently met licensure requirements and were registered as pharmacists in South Dakota: Kathryn Dzintars, Tricia Klug, Brock Komar, Luke Merkel, Heather Strawsell, Akila Subramanian, Nah-Uyen Tran and Jafar Zand.

NEW PHARMACIES

Pharmacy licenses have been issued recently to: Brothers Pharmacy, Brookings, Shane Clarambeau, Pharmacist-in-charge; Hy-Vee Pharmacy #7, Sioux Falls, Kristin Williams, Pharmacist-in-charge.

STAMPED OR PRE-PRINTED SIGNATURES

Prescriptions for any legend drug or controlled substance must be signed by the prescriber and NOT rubber stamped or pre-printed.

CONTROLLED SUBSTANCE ANSWERS

The Drug Enforcement Administration (DEA) has a terrific Web site for information on controlled substance regulations: www.deadiversion.usdoj.gov/. The site contains lists of controlled substances by schedule, order forms, new regulations, and much more. Of particular interest to pharmacists is the "question and answer" section.

The final language on changing information on a Schedule II prescription has not been provided by the DEA. The Board suggests that if changes are necessary the pharmacist should contact the prescriber for a new prescription until the DEA issues a final ruling.

DEA POLICY CHANGE ON PRACTITIONER AGENTS

The DEA announced policy changes that will now allow nurses (including but not limited to long-term care facility (LTCF) nurses) working in LTCF's to act as agents of physicians prescribing schedule III through V medications. An agent may not communicate oral Schedule II prescription medication to the pharmacy on behalf of a practitioner. The federal register notice can be accessed online at <http://tiny.cc/fbwvuxawm7>. In the absence of an employer-employee relationship, the DEA-registered practitioner may designate an individual as his or her agent, provided the practitioner assesses the level of control they are able to exercise over the agent, the agent's licensure, level of training, experience, and other factors to determine if the individual is a suitable agent and to ensure the individual will not engage in activities that exceed the scope of an agency relationship. There must be an explicit and transparent agreement between the practitioner and a proposed agent in order to establish an agency relationship. DEA believes that the agreement should be reduced to writing. The Federal Register notice provides a sample written agreement that could be used to establish an agency relationship between a practitioner and a designated agent that would allow an agent to communicate controlled substance prescriptions to a pharmacy. Practitioners may choose to establish agency relationships with multiple agents in multiple locations. Likewise, individuals designated as agents may establish multiple agency relationships with multiple practitioners. The agreement would also articulate scope of duties, within statutory limits, a practitioner may delegate to an agent. The signed and executed agreement should be kept on file by the practitioner, the practitioner's agent, the agent's employer (if other than the practitioner), and any pharmacist that would receive communication from the agent. Pharmacists will always have a corresponding duty to ensure that any prescription received is for a valid medical purpose, and that the prescription is prepared and dispensed in a manner consistent with state and federal regulations.

SOUTH DAKOTA BOARD OF PHARMACY

Continued

ELECTRONIC PRESCRIBING OF CONTROLLED SUBSTANCES

Board staff continues to receive many inquiries concerning electronic prescriptions for controlled substances (CSERx).

DEA issued a CSERx rule that was “effective” earlier this year. As noted in prior updates, however, this rule is effective only in the academic sense. That rule requires any system that either transmits or receives CSERx to be “certified” as meeting DEA’s security and control standards in the CSERx rule. At press time DEA had not certified any transmitting or receiving system as meeting these security standards. Accordingly, CSERx still does not meet federal law requirements. Much more information about the rule and its operation may be found at www.ncbop.org/faqs/Pharmacist/ControlledSubstanceE-RXFAQsApr2010.pdf. DEA has published frequently asked questions on CSERx, which may be found at www.deadiversion.usdoj.gov/ecomm/e_rx/index.html#faq.

So where does that leave everyone? An electronically signed prescription for a controlled substance is not in compliance with federal law at this time. DEA has also stated clearly (see DEA link above) that prescribers may not print or print and fax a prescription for a controlled substance that is electronically signed. However, the practitioner may print and fax a controlled substance prescription (Schedule III – V only) that they have manually signed. An exception is that Schedule II prescriptions for residents of long-term care facilities or for terminally ill patients may be faxed after being manually signed. A pharmacist who receives an electronic prescription for a schedule III, IV or V medication may call the prescriber, confirm the prescription, and treat it as a verbal order.

FOR CONFIDENTIAL ASSISTANCE

If you have concerns about yourself or a colleague, call the South Dakota Health Professionals Assistance Program (SD HPAP) to discuss your concerns. HPAP assists impaired pharmacists and pharmacy technicians who need help in dealing with substance abuse. Call Char Skovlund at 605-322-4048 for a confidential consultation.

BOARD OF PHARMACY MEETING DATES AND ACTION ITEMS FOR 2011

Please check our website for the time, location and agenda for future Board meetings.

We will be working on several items during 2011 that will have a direct effect on your pharmacy practice:

- Implementing the Prescription Drug Monitoring Program.
- Considering legislation for mandatory pharmacy technician education and certification.
- Updating our rules for mandatory continuing education.
- Updating our rules for administration of vaccines by pharmacists.

We intend to keep you informed by attending district meetings and providing information on our web site. We hope that you will provide feedback to help the Board make good decisions.

BOARD OF PHARMACY STAFF DIRECTORY

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Board of Pharmacy Website:

www.pharmacy.sd.gov

SAVE THE DATE!!

**2011 Legislative Days
February 1st- 2nd, 2011**

2010 COMMERCIAL & LEGISLATIVE FUND CONTRIBUTORS

Corporate Contributors

Arne Anderson, Anderson Pharmacy
Shane Clarambeau, Brothers Pharmacies, Inc.
William Ladwig, Lewis Drug, Inc.
Paul Sinclair, Liebe Drug Inc

Business Contributors

Barry Uecker, Heritage Pharmacy
Kirk Wilson, Martin Drug & Mercantile
Lois Hoffman, Hoffman Drug
Julie Seas, Nelson Drug
Yee-Lai Chiu, Complete Home Care, Inc.
Kevin Wurtz, Pioneer Drug
Roger Renner, Rogers Family Pharmacy
John Carson, Carson Drug LLC
Cheri Kraemer, Clinic Pharmacies, Inc.
Dan Somsen, Yankton Drug
Curtis Rising, The Medicine Shoppe
Thomas Lavin, Davis Pharmacy
Jim Buechler, Medicine Shoppe - Mitchell
Hugh Mack, Randall Pharmacy
Trisha Hadrick, Faulkton Drug
Terry Casey, Casey Drug
William Roth, Salem Drug
Jeff Bertsch, Country Drug, Inc.
Lance Bien, Bien Pharmacy
Janelle Varney, Varney Pharmacy
Lori Giedt, Lori's Pharmacy
Jim Bregel, Casey Drug and Jewlery
Shane Clarambeau, Shane's Pharmacy

Individual Contributors

Amy Heiberger	James Kuchta	Randy Jones
Amy Mammenga	James Speirs	Rebecca Baer
Andrea Fuhrer	James White	Rebecca Johnson
Angela Johnson	Jamie Grosidier	Rehme Sutton
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Ashley Mutschelknaus	Jennifer Haring	Robert Reiswig
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Bonnie Salonen	Jodi Meier	Sandy Jacobson
Brett Stark	Jody Stanton	Sara Gossen
Brian Kaatz	John Hilton	Scott Crouse
Brian Lounsbery	Julie Cook	Shannon Gutzmer
Brian Temple	Julie Meintsma	Sheila Hoffman
Brooke Jones	Karetha Bittorf	Sheila Zweifel
Byron Olson	Kari Shanard-Koenders	Shona Jussel
Carole Anderson	Karla Janssen	Stephanie Muller
Carol Breitreutz	Kate Thurston	Susan Downs
Cheri Kraemer	Kathleen Hustead	Susan Lloyd-Davies
Christine Lounsbery	Katy Hayes	Susan Schaefer
Christopher Sonnenschein	Kay Kindopp	Suze Bayne
Constance McDonald	Kelly Jerred	Sylvia Thomley
Cynthia Benson	Kim Kortje	Theresa Frederick
David Helgeland	Kirby Hay	Thomas Bartholomew
David Mentele	Laurie Garry	Thomas Chiu
Dawn Bargmann	Leah Rempfer	Thomas Johnson
Deborah Deis	Lenny Petrik	Travis Anderberg
Donald Frank	Linda Oyen	Tyler Turek
Donald Mettltton	Lisa Rave	
Donald Olson	Lisa Thelen	
Douglas Kapaun	Lori Ollerich	
Duane Larson	Lowell Macy	
Earl Hinricher	Marilyn Schwans	
Earl McKinstry	Marlin Brozik	
Echo Zickrick	Mary Thomas	
Edwin Swanson	Matthew Toennies	
Emily Laible	Melanie Sommers	
Else Umbreit	Melvin Henrichesen	
Galen Goeden	Michelle Jennings	
Galen Jordre	Pamela Jones	
Gary Karel	Paula Stotz	
Gary Van Riper	Paula Winther	
Jack Burns	Philip Dohn	

Contribute to the 2010-2011 South
Dakota Pharmacists Association
District Dues and SDPhA Commercial
and Legislative Fund!!

Visit our website at www.sdpha.org

Thank You for Your Support!

2011 AWARD NOMINATIONS

The SDPhA is accepting nominations for award to be presented at the 2011 Convention in Sioux Falls. Nominations should be submitted along with biographical and contact information.

The following awards will be presented:

Bowl of Hygeia

The recipient must be a pharmacist licensed in South Dakota; be living (not presented posthumously); not be a previous recipient of the award and not served as an SDPhA officer for the past two years. The recipient has compiled an outstanding record of community service, which apart from his/her specific identification as a pharmacist reflects well on the profession.

Nominee: _____

Distinguished Young Pharmacist

The nominee must hold an entry degree in pharmacy received less than ten years ago, licensed in South Dakota, member of SDPhA, practiced in retail, institutional, consulting pharmacy in the year selected, involvement in a national pharmacy association, professional programs, state association activities and/ or community service.

Nominee: _____

Hustead Award

Nominee must be a pharmacist licensed in South Dakota, who has not previously received the award. The nominee shall have made a significant contribution or contributions to the profession, and should have demonstrated dedication, resourcefulness, service, and caring.

Nominee: _____

Salesperson of the Year Award

Nominee must have made an outstanding contribution to the profession of pharmacy through outside support of the profession

Nominee: _____

Distinguished Service Award

The nominee must be a non-pharmacist who has contributed significantly to the profession. The award is not routinely given each year, but reserved for outstanding individuals. Persons making the nomination should complete the form providing reasons why the nominee should be selected. The nomination should clearly outline why the nominee is worthy of the award. If a recipient is selected the Association will then contact the individual to notify them of the selection and obtain biographical data.

Nominee: _____

Innovative Practice

The recipient has demonstrated innovative pharmacy practice resulting in improved patient care. The nominee should be a pharmacist practicing in South Dakota.

Nominee: _____

Honorary President Award

Nominee must be a pharmacist who has been outstanding in the profession of pharmacy, both through practice and professional ability. This person must also have been active in community affairs and not served as president of the Association.

Nominee: _____

District Technician of the Year Award

Nominee has demonstrated an excellent work ethic, is reliable, consistent, and works well with other. Technicians provides a valuable service to the pharmacy profession.

Nominee: _____

Fax nominations by **January 21st, 2011** to (605) 224-1280 or e-mail to sdpha@sdpha.org. Using the criteria for each award listed, please describe in detail the reason for the SDPhA Board of Directors to consider you nominee. Include specific examples and/or details.

Name of Individual Nominating: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ E-Mail: _____

Pharmacy/Organization: _____

STATE PHARMACY GRADS RECEIVE TOP PASS RATE

BROOKINGS, S.D. — South Dakota State University College of Pharmacy graduates received a 100 percent passing rate on the North American Pharmacist Licensure Examination for the fourth consecutive year. The entire 2010 graduating class of 69 first-time candidates obtained a passing score compared to the national average of 95.3 percent for first-time test takers to pass the exam.

After pharmacy graduates receive their Pharm.D., they need to take the NAPLEX in order to be licensed to practice pharmacy. The exam is offered for entry-level Pharm.D. graduates across the United States.

The national average score for those who took the exam was 103. SDSU pharmacy graduates scored

an average of 112 on licensing tests taken during the May to August 2010 reporting cycle.

“Our graduates have consistently received scores that exceed the national average,” said Dennis Hedge, dean of the SDSU College of Pharmacy. “Factors influencing our outstanding pass rate reflect high quality students and a dedicated faculty and staff — hallmarks of State’s College of Pharmacy.”

-www.sdstate.edu-

Reprinted with permission from SDSU

SDPhA ANNOUNCES NEW AFFILIATION WITH MATCH RX

We're proud to announce our new affiliation with MatchRX.com. MatchRX is a web-based marketplace developed exclusively for pharmacists to buy and sell overstocked prescription drugs with each other at discounts of 10%-90% below WAC. Their mission is to connect pharmacists across the US to help manage inventory more efficiently. They operate in 28 states and have conducted thousands of trades with their existing membership of over 600 pharmacies.

Whether you operate one or fifty pharmacies, MatchRX is a tool to help you increase your turns and save thousands of dollars every month in each location. Featured in an article written for the July 2010 issue of America's Pharmacist, there are multiple reasons to incorporate MatchRX into your everyday routine from becoming more efficient by increasing your turns, reducing carrying costs, reducing waste in landfills and waterways, to saving money when purchasing (Average Savings of 22% off WAC) and selling on the site. Members who use the site regularly save \$2,000-\$5,000 per month. It's free to join, free to post, and you'll only incur a fee when someone purchases an order from you. In other words, you have nothing to lose by joining.

I've viewed the site with Shane Peer, VP of National Group Sales for MatchRX, and found it to be easy to use. They have customer service available weekdays from 8AM-5PM CST to answer any questions and walk you through the site. MatchRX provides webinars to SDPhA members to introduce you to the marketplace.

I encourage you all to go to www.MatchRX.com and sign up for one of the many webinars offered! To register for free, visit the site at www.MatchRX.com.

When you register make sure to put in SDPhA in the "referred by" field on the registration page. Just by registering (free!), MatchRX will provide support to SDPhA for each referral! If you need any assistance in the meantime, feel free to contact them at 877-590-0808.

Sue



Announcing our collaboration with
MATCHRX™
your overstock solution

The Missing Piece in *Overstock Inventory!*

MatchRX is a web-based marketplace developed exclusively for pharmacists to buy and sell overstocked prescription drugs to one another. Their mission is to connect pharmacists throughout the US to help manage inventory more efficiently. **Visit the site at www.MatchRX.com. When you register make sure to put in SDPhA in the "referred by" field. If you need any assistance in the meantime, feel free to call 877-590-0808.**

Whether you manage one or fifty pharmacies, MatchRX is a tool to help you increase your turns and save thousands of dollars every month in each location. As written in the July 2010 issue of America's Pharmacist, there are multiple reasons to incorporate MatchRX into your everyday routine. You'll benefit by becoming more efficient through increasing your turns, reducing carrying costs, reducing waste in landfills and waterways, to saving money when purchasing (Average Savings of 22% off WAC) and selling on the site. Members who use the site regularly save \$2,000 - \$5,000 per month. When you register make sure to put in SDPhA in the "referred by" field on the registration page. **Just by registering (free!), MatchRX will provide support to the SDPhA for each referral!** If you need any assistance in the meantime, free free to contact them at 877-590-0808.

Daily issues in the pharmacy occurs when an item is partially dispensed and the remaining portion remains on the shelf for months or even years because the patient changed the prescription, moved, or may have stopped taking the drug altogether. With MatchRX, you can transfer these partilly dispensed drugs to another pharamcy using the marketplace.

Visit www.MatchRX.com to Register

MATCHRX™
your overstock solution

Free Membership



3250 West Big Beaver Rd | Suite 228 | Troy, MI 48084 | 877-590-0808 | www.MatchRX.com

**SDPhA Convention Educational Line-up (Tentative)
Sioux Falls Sheraton & Convention Center
June 3-5, 2011 – Sioux Falls, SD**

Friday, June 3rd

Friday morning: Golf Event
Vendor Time/Luncheon: 11:00 a.m. until 1:00 p.m.

1:00 p.m. - 2:30 p.m.
"Pharmacy Law Update"
Dave Helgeland, RPh

(Short Break)

2:40 p.m. – 4:40 p.m.
"Pharmacy Audit Education"
Speaker TBA

(Short Break)

4:50 p.m. – 5:50 p.m.
"Antibiotic Stewardship"
Speaker TBA

Friday Evening – Reception and Entertainment (RIBFEST)
6:30 p.m.

Saturday AM - Phun Run 6:30 a.m. – 7:30 a.m.
Breakfast 7:30 a.m. – 8:30 a.m.

Saturday, June 4th

7:50 a.m. – 9:20 a.m.
"New Drug Update"
Joe Strain, PharmD

(Short Break)

9:30 a.m. – 11:30 a.m.
"Healthcare Reform – The New Plan"
Dr. Paul Moore, HRSA

(Short Break)

11:40 a.m. – 1:00 p.m.
First Business Meeting and Lunch (BOP CE available)

1:00 p.m. – 2:30 p.m.
"Pharmacy Jeopardy" (Preceptor Training)
SDSU Students

2:30 – 3:00 SDSU/Mills Family Ice Cream Social

3:00 p.m. - 4:00 p.m. Second Business Meeting (BOP CE available)

Saturday Evening – Past President's Soiree 5:00 p.m.
Children's Pizza Party 6:30 p.m.
Social/Awards Banquet/Dance – 6:30 p.m.

Sunday, June 6th

8:50 a.m. - 10:50 p.m.
"Immunization Review"
Dr. Kelley Oehlke

(Short Break)

11:00 a.m. – 12:00 noon
"Prescription Drug Monitoring Program – Update"
Ron Huether, RPh – SD Board of Pharmacy

125th Annual South Dakota Pharmacists Association Convention

Registration Form

Sheraton SF Hotel & Convention Center, Sioux Falls, South Dakota June 3th- 5th , 2011



All SDSU Student Registrations are FREE!

(Hotel not Included)
Registrations must be submitted prior to May 2, 2011

Name: _____
 Address: _____
 City: _____ State: _____ Zip _____
 Business Name: _____
 Business Address: _____
 City: _____ State: _____ Zip _____
 Business Phone: _____
 Home Phone: _____
 Email Address: _____
 Spouse/Guest Name: _____

	SDPhA Member	Spouse or Guest	Children	SDAPT Member	Pharmacy Technician	Pharmacy Student	Non SDPhA Member
Full Registration* Before May 2, 2011	\$150	\$90	\$20	\$90	\$150	Free	\$225
After May 2, 2011	\$175	\$110	\$25	\$110	\$175	Free	\$250
One Day Registration** Fri., June 3, 2011	\$100	\$50	\$10	\$50	\$90	Free	\$145
Sat., June 4, 2011	\$115	\$65	\$20	\$65	\$105	Free	\$160
Sun., June 5, 2011	\$50	\$25	Free	\$50	\$50	Free	\$75
Extra Tickets Sat. Breakfast	\$15	\$15	\$10	\$15	\$15	Free	\$15
Sat. Lunch	\$15	\$15	\$10	\$15	\$15	Free	\$15
Sat. Awards Banquet	\$30	\$30	\$10	\$30	\$30	Free	\$30

For Hotel Reservations Call:
 Sheraton Sioux Falls Hotel & Convention Center
 1211 West Avenue North (605) 331-0100

Cancellation Policy:

Cancellations will be accepted without penalty prior to May 16, 2011.
 A \$25 cancellation fee will be applied to all cancellations after May 16, 2011.
 Refunds will be issued after June 10, 2011.

*Full Registration includes all educational sessions, exhibits, meals and evening events

**One-day Registration includes educational sessions, exhibits, meals and evening event, if applicable.

I would like sponsor a student. I have included an additional gift of _____
I would like to contribute to the SDPhA Commercial & Legislative Fund.
 I have included an additional amount of _____

Total Due \$ _____

Please send payment and registration to:

South Dakota Pharmacists Association
PO Box 518, Pierre, SD 57501
 Tax ID#: 46-0191834

I will be participating in the golf event on Friday Yes ___ No ___
 I will be participating in the phun run on Saturday Yes ___ No ___

SDPhA LEGISLATIVE DAYS 2011

FEBRUARY 1-2, 2011

The 2011 SDPhA Legislative Days is scheduled for February 1st-2nd in Pierre. Legislative Days provides you with an opportunity to visit face to face with your state legislators, express your opinions, and observe the legislative process.

Tuesday, February 1st

- Networking social & BBQ at 6:00 pm at the AmericInn in Ft. Pierre for Student Pharmacists, Pharmacists, and Pharmacy Technicians
- Legislative Update

Wednesday, February 2nd

- SDSU College of Pharmacy Student Pharmacists will provide healthcare screenings in the President's and Speaker's lobbies. (third floor of the Capitol)
- Pharmacists will visit with Legislators
- A light breakfast will also be provided

There is no cost to attend for SDPhA Members!

Please RSVP to the SDPhA Office by January 25th, 2011

Hope to see you in Pierre as we address important pharmacy issues!

Pharmacy Days Registration Form

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Email Address: _____

Pharmacy/Organization: _____

Please send registration form by January 25th, 2011 to:

SDPhA

PO Box 518

Pierre, SD 57501

Fax: (605) 224-1280

sdpha@sdpha.org

Or give us a call at (605) 224-2338

There is no cost to attend for SDPhA Members!

2011 SOUTH DAKOTA LEGISLATURE

District 01

(Day, Marshall, Roberts)

Frerichs, Jason Senate
Sigdestad, David House
Wismer, Susan House

District 02

(Brown, Spink)

Dennert, H. Paul House
Elliot, Elaine House
Hundstad, Jim Senate

District 03

(Brown, McPherson)

Feickert, Dennis House
Novstrup, Al Senate
Novstrup, David House

District 04

(Brookings, Deuel, Grant, Moody)

Begalka, Tim Senate
Rausch, Val House
Street, Steve House

District 05

(Codington)

Holien, Ried Senate
Magstadt, Melissa House
Solum, Roger House

District 06

(Beadle, Clark, Codington, Hamlin, Kingsbury)

Fryslie, Art Senate
Greenfield, Brock House
Tulson, Burt House

District 07

(Brookings)

Hawley, Spencer House
Munsterman, Scott House
Tidemann, Larry Senate

District 08

(Lake, Miner, Moody, Sanborn)

Fargen, Mitch House
Olson, Russell Senate
Stricherz, Patricia House

District 09

(Minnehaha)

Deelstra, Bob House
Hickey, Steve House
Peters, Deb Senate

District 10

(Lincoln, Minnehaha)

Abdallah, Gene House
Hunt, Roger House
Krebs, Shantel Senate

District 11

(Lincoln, Minnehaha)

Hubbel, Lora House
Schlekeway, Todd Senate
Willadsen, Mark House

District 12

(Lincoln, Minnehaha)

Johnson, Mark Senate
Steele, Manny House
Wick, Hal House

District 13

(Minnehaha)

Blake, Susy House
Heineman, Phyllis Senate
Liss, Brian House

District 14

(Minnehaha)

Cutler, Joni Senate
Feinstein, Marc House
Tornow, R. Shawn House

District 15

(Minnehaha)

Buhl, Angie Senate
Haggar, Jenna House
Kirschman, Patrick House

District 16

(Lincoln, Union)

Bolin, Jim House
Lederman, Dan Senate
Miller, Patty House

District 17

(Clay, Turner)

Boomgarden, Jamie House
Jones, Tom House
Nygaard, Eldon Senate

District 18

(Yankton)

Hunhoff Bernie House
Hunhoff, Jean Senate
Moser, Nick House

District 19

(Bon Homme, Douglas, Hutchinson, Turner)

Kloucek, Frank House
Putnam, J.E. "Jim" Senate
Van Gerpen, Edward House

District 20

(Aurora, Davison)

Carson, Lance House
Rozum, Tona House
Vehle, Mike Senate

District 21

(Brule, Buffalo, Charles Mix,

Gregory)
Garnos, Cooper Senate
Juhnke, Kent House
Schaefer, James House

District 22

(Beadle, Hand, Jerauld)

Gibson, Peggy House
Hansen, Tom Senate
White, Jim House

District 23

(Campbell, Edmunds, Faulk, Hyde, McPherson, Potter, Walworth)

Brown, Corey Senate
Cronin, Justin House
Hoffman, Charles House

District 24

(Hughes, Stanley, Sully)

Gray, Bob Senate
Perry, Tad House
Venner, Mark House

District 25

(Hanson, McCook, Minnehaha)

Hansen, Jon House
Nelson, Stace House
Rave, Timothy Senate

District 26

(Bennett, Haakon, Jackson, Jones,

Lyman, Mellette, Tripp)
Sutton, Billie Senate

District 26A

(Mellette, Todd)

Lucas, Larry House

District 26B

(Gregory, Tripp)

Vanneman, Kim House

District 27

(Bennett, Shannon, Todd)

Bradford, Jim Senate
Killer, Kevin House
Iron Cloud III, Ed House

District 28

(Butte, Corson, Dewey, Harding,

Meade, Perkins, Ziebach)
Maher, Ryan Senate

District 28A

(Corson, Dewey, Ziebach)

Schrempp, Dean House

District 28B

(Butte, Corson, Harding, Perkins)

Olson, Betty House

District 29

(Butte, Meade)

Brunner, Thomas J House
Wink, Dean House
Rhoden, Larry Senate

District 30

(Custer, Fall River, Pennington)

Rampelberg, Bruce Senate
Verchio, Mike House
Russell, Lance House

District 31

(Lawrence)

Nelson, Thomas Senate
Romkema, Fred House
Turbiville, Charles House

District 32

(Pennington)

Adelstein, Stanford Senate
Conzet, Kristin House
Gosch, Brian House

District 33

(Meade, Pennington)

Jensen, Phil House
Kraus, Elizabeth Senate
Sly, Jacqueline House

District 34

(Pennington)

Dryden, Dan House
Lust, David House
Tieszen, Craid Senate

District 35

(Pennington)

Haverly, Jeffrey Senate
Kirkeby, Mark House
Kopp, Don House



South Dakota State University

College of Pharmacy



Dennis Hedge

Dean

Interprofessional Education for the Health Professions

Great attention to the issues of patient safety, health promotion, and prevention of disease has stimulated considerable discussion on the value of a team-based approach to patient care. In 2003, the Institute of Medicine Committee on the Health Professions issued the report, "Health Professions Education: A Bridge to Quality". The theme within that report was that "health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches, and informatics". The overall goal within this statement is for students to learn how to function in an interprofessional team and bring their acquired knowledge, skills, and values into their future practice. Since release of that report, accreditation standards for health professional education now contain language that reflects such sentiment. For example, the Accreditation Council for Pharmacy Education (ACPE) now requires educational programs to prepare future pharmacists to provide patient-centered care as members of interprofessional health care teams.

Interprofessional education among the health sciences has been defined as "two or more health professions and their foundational disciplines who jointly create and foster a collaborative learning environment. The goal of these efforts is to develop knowledge, skills and attitudes that result in interprofessional team behaviors and competence."¹ Perhaps, more notable is the recognition of what interprofessional education is not. Interprofessional education is not simply placing students from different health professions in the same classroom without an element of interaction among the students from varying disciplines. Interprofessional education is also not simply having a faculty member from a different profession lead a classroom or patient care experience without relating how the professions could interact in providing care¹.

Despite data supporting interprofessional education of health professions students and a team-based approach to care, implementing interprofessional education can often prove to be quite difficult. Barriers can include things such as physical space, course design, and scheduling conflicts. In December 2007, the University of South Dakota and South Dakota State University announced a collaborative effort in healthcare education. The USD-SDSU Health Science Alliance was formed with an eye on addressing obstacles to interprofessional education and taking advantage of opportunities for collaborative health science research. Through the cooperative efforts of individuals at both universities, progress has been made on both fronts. Examples include a student-led interprofessional diabetes care clinic, an interprofessional team simulation exercise, and a disaster life support workshop involving students from health science programs at both institutions.

Beyond the structured efforts referenced above, a large amount of interprofessional learning occurs during clinical clerkships. In that regard, I would like to express my appreciation for the role you play in educating students from all health professions via your interaction and sharing the knowledge you possess. These interactions are sure to help the next generation of health care professionals provide better patient care.

Warm regards,

Dennis D. Hedge, Pharm.D.
Dean and Professor
SDSU College of Pharmacy

Reference

1. Buring S, Bhushan A, Broeseker A, Conway S, Duncan-Hewitt W, et al. *Interprofessional Education: Definitions, Student Competencies, and Guidelines for Implementation. American Journal of Pharmaceutical Education 2009; 73 (4) Article 59.*

ACADEMY OF STUDENT PHARMACISTS



Kayley Lyons
APhA-ASP President

Greetings from APhA-ASP!

The precipitating temperatures have not affected the heat we have been cooking up at our SDSU APhA-ASP Chapter! This year has marked record breaking involvement from pre-pharmacy students to the P3's at the University Center in Sioux Falls. At our last meeting, we thawed temperatures with a Heartburn Awareness sponsored Chili Feed. After committee reports, six of our members competed in a partnered chili eating contest for a \$25 gift card and complimentary Tums Ultra for all participants. Next in December, we cooled things down at our annual Ice Skating Social at Larsons Ice Arena. For holiday cheer, our pre-pharmacy committee celebrated by decorating a Christmas tree in pharmacy fashion which was displayed with other student organization's trees in the Student Union. This included a bright Fish Oil star, Tums garland, and prescription bottle ornaments.

This November incorporated many service projects on campus and in the community. A pantry food drive was held at both the SDSU campus and The University Center. In Sioux Falls, the P3 committee helped "Rake the Town" and assisted the Angel Tree booth at the Empire Mall. We also hosted a residency showcase in Sioux Falls inviting residents William Coolidge, Ann Foede, and Bridget Bradley who took time out of their busy days to talk to us about such topics as Midyear and the Match. Professor Tom Johnson also advised us on how to prepare for residencies from a Residency Director perspective. This was a very successful event and we will be hosting a similar event on the Brookings campus this spring. In Brookings, members helped out with the Brookings Backpacking Project, Katy's Kids presentations, and Poison Prevention presentations given to elementary students. During our largest philanthropic effort, we came together to support one of our own, Kristen Sample, who was hospitalized for pregnancy complications. We co-hosted two kickball tournaments with PLS which collected over \$1,600 to assist her with medical costs!! Thank you to everyone who donated!

October of course stands for Hobo Days and the annual Pharmacy Hobo Day Float which proudly displayed the theme of "Peace, Love and Hobos". Unfortunately, our Midyear Regional Meeting took place during Hobo Days. However, three representatives jumped in with members from the neighboring NDSU chapter and road tripped to the meeting in Denver, Colorado. Later in the month, chapter members came out in high numbers to enjoy free appetizers at Cubbies. We also socialized and burned some competitive energy in a Dodge Ball Tournament during Halloween.

Our patient care projects jump started with the first ever, Patient Care Training Week. With newly trained members, the Co-chairs diligently organized a variety of screenings and clinics. One of our most ingenious events emerged out of our newest patient care project, Operation Heart. They co-sponsored a Breast Cancer Awareness 5K Run which rose over \$4,500 and boasted over 250 runners. Proudly enough, the winner of the 5K run was our very own, Cy Fixen, a P2 pharmacy student.

It has already been an exciting year with our innovative programming and increased participation. However, we need your help more than ever! Many students are interested in attending the APhA National Meeting this year and rely on our financial support. You can contact Kris Kirchner, our Treasurer at kmkircher6663@jacks.sdstate.edu and purchase one of our cookbooks for \$20. Furthermore, please watch for dates for the Sioux Falls ASP Auction in the spring which has traditionally been our greatest fundraiser. We greatly appreciate our alumni support and hope to meet you at Legislative Days on February 2nd. Currently, we have 80 students attending and are therefore ready to take over the capitol!

Kayley Lyons
APhA-ASP SDSU Chapter President



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except HI. Check with your representative or the company for details on coverages and carriers.

SD ASSOCIATION OF PHARMACY TECHNICIANS

Phyllis Sour

SDAPT President

Greetings from SDAPT,

We held our Annual Meeting along with 5 hours of continuing education on October 9th, at the beautiful new CUC building in Pierre. The meeting was well attended and we had many compliments and comments on the variety of outstanding topics and presentations from our continuing education speakers. We at SDAPT would like to thank the following speakers for their very informative presentations and to let them know that we do appreciate the support that they have shown to the technician association.

Lenny Petrik, "Teen Drug Abuse in South Dakota."

Dana Darger, "Diabetes Update."

Marla Hayes, "Telepharmacy-New Opportunities for Pharmacy Technicians".

Ron Huether, "Review of South Dakota Pharmacy Laws and Rules".

Sarah Nagel, "Appropriate Aspirin Therapy."

Our annual business meeting was held at noon, following the luncheon, with the following topics being addressed. We voted to renew the Affiliation Agreement with SDPhA. A discussion was held on getting a "new look" and more user friendly website. Also discussed were fundraiser ideas and ways to celebrate Pharmacy Technician Day.

We addressed the SDPhA and SDSHP conventions and encouraged our members to attend these events.

We had a wonderful day and I truly want to thank those that attended and contributed to the awesome discussions.

Also a big thank you to Bonnie, Twila and Diane for their support and help with promoting SDAPT this past year.

Our 2011 Annual Meeting with Continuing Education is scheduled for October 1st and will again be held at the CUC building in Pierre. We would appreciate any suggestions on CE topics for next year's meeting.

We always welcome your comments and suggestions, please feel free to contact me or any of the officers of SDAPT.

Best wishes for the New Year,
Phyllis Sour

Contact information

Phyllis Sour, pep12009@rap.midco.net

Twila Vavra, tvavra@hotmail.com

Diane Feiner, feinerd@sanfordhealth.org

Bonnie Small, bnnsmall@yahoo.com

PEER PORTAL LAUNCHED TO CAPTURE PHARMACISTS' EXPERIENCES WITH ELECTRONIC PRESCRIBING

The Alliance for Patient Medication Safety (APMS) recently announced the re-launch of a Web portal designed to enable pharmacies to document their encounters with electronic prescribing and provide critical feedback to improving the process.

Originally developed in collaboration with SureScripts (www.surescripts.com), the revised Pharmacy and Provider e-Prescribing Experience Reporting (PEER) Portal uses an enhanced, streamlined web-based questionnaire to collect the data necessary to address the continuing challenges in e-prescribing encountered by pharmacists and providers. Data submitted across the country through the PEER Portal will be aggregated and analyzed to provide im-

petus for further improvements in training, certification standards and technology.

APMS and state pharmacy associations have teamed up to encourage pharmacists and providers to regularly enter their e-prescribing experiences and improvement suggestions into the PEER Portal. Widespread use of the PEER Portal will provide the data to drive essential changes.

To learn more about the programs offered by APMS, visit www.medicationsafety.org

SD SOCIETY HEALTH-SYSTEM PHARMACISTS

Jan Opperman, SDSHP President

Holiday Greetings from SDSHP,

What a wonderfully busy time of year! SDSHP is excited to be working on lots of projects at the end of 2010 and looking forward to planning and preparing for 2011.

ASHP Midyear Clinical Meeting – Anaheim

The 45th Midyear meeting was held in Anaheim, CA on December 5-9, 2010. Several members from SDSHP were able to attend. SDSHP participated in a "Meet the Affiliate Leaders" event and sponsored a very successful "Dakota Night" reception. This Midyear meeting draws thousands of health-system pharmacists from across the country and is an opportunity for learning and networking.

35th Annual SDSHP Conference - April 1 and 2, 2011 Best Western Ramkota Hotel & Convention Center Sioux Falls, SD

Plans are underway for our 35th Annual Conference! Our conference planning committee is putting together another informative and entertaining conference. There are numerous opportunities for learning and networking for our practicing pharmacists, students, educators and representatives of the pharmaceutical industry. We will have 11 hours of timely CE presentations, poster presentations and a wonderful exhibit hall. Please visit our website for more information and to register for this event at

www.sdshp.com.

"Pharmacist of the Year" and "Technician of the Year" Awards

Do you know of a pharmacist or technician member of SDSHP who deserves special recognition? Please be sure to nominate them for pharmacist or technician of the year. The winners will be announced at the Annual Meeting in April.

Participation in ASHP and SDSHP

If you are interested in participating at the local level through SDSHP or at the national level through ASHP, please check out the information on our website. There are many opportunities for involvement!

Membership Renewal and Recruitment

Membership to SDSHP is a great deal! With \$50 for pharmacists and \$20 for technicians you can't beat the price. In return you will help advance the practice of pharmacy in health-systems across our state. Please check out our website (www.sdshp.com) for a membership form and a special deal for recruiting new members.

On behalf of the South Dakota Society of Health System Pharmacists, we hope you have a joyous holiday season and a very happy New Year!

SDSHP 35th Annual Conference Tentative Schedule

Friday -- April 1, 2011

7:30 AM-4:30 PM	Registration	4:30-5:30 PM	
8:00-9:00 AM	Delayed Onset Killing...The Impact of Healthcare Associated Infections Wendell Hoffman, MD	5:30-6:30 PM	
9:00-10:00 AM	Evidence Based Medicine Mary Andrawis, Pharm.D., M.P.H.	7:00-10:30 AM	
10:00-10:15 AM	Break	7:30-8:45 AM	
10:15-11:15 AM	New Medications in Psychiatry Bridget Bradley, Pharm.D.	8:45-9:45 AM	
11:15 AM-1:15 PM	Exhibit Theater / Poster Presentation (Lunch Buffet)	9:45-10:45 AM	
1:15-2:15 PM	The Pharmacist's Role in Healthcare Quality and Patient Safety Molly Clark, Pharm.D., MHA	10:45-11:00 AM	Break

2:15-3:15 PM TBA: Eric Noyes, CNP

3:15-3:30 PM Break

3:30-4:30 PM A Pediatric Intensivist's Perspective of Pediatric Pharmacy:

"Some and More"

Joseph Segeleon, MD

Prescription Drug Monitoring Program
Ron Huether, R.Ph.

Member Appreciation Reception (hors d'ouerves)

Saturday -- April 2, 2011

Registration

Breakfast Buffet / Business Meeting / Awards Presentation

Review of Transplant Immuno suppression
Elizabeth Gau, Pharm.D.

Acute Bleeding: Pharmacologic Management
Billie Bartel, Pharm.D.

Preceptor Education--
Diabetes Update: What You Need to Know
Annette Johnson, Pharm.D.

Shining Light on Vitamin D
Karly Hegge, Pharm.D., BCPS



SD Society of Health-System Pharmacists 35th Annual Conference

REGISTRATION FORM

April 1st & 2nd, 2011



3200 West Maple Street
Sioux Falls, SD

Name: _____
 Address: _____

 City _____ State _____ Zip _____
 E-Mail Address: _____
 Practice Site: _____
 Home Phone: _____
 Business Phone: _____

Type of Practice:
 ___ Hospital ___ Managed Care ___ Home Care ___ Student
 ___ Retired ___ Technician ___ Other: _____

HOTEL RESERVATIONS
 To receive the special rate, you **must** call the Ramkota directly and specify that you are with the **SD Society of Health-System Pharmacists Conference**.
Note: Only reservations made prior to March 1st receive these rates. 605-336-0650

SDSHP CONFERENCE CANCELLATION POLICY
 Cancellations will be accepted in writing or via e-mail to the SDSHP office prior to March 20, 2011. No cancellations will be accepted after that time. A \$15 cancellation fee will be applied to all cancellations. Refund checks will be issued after April 30, 2011.

Circle your choice(s)	SDSHP R.Ph. Member	SDSHP Tech/Associate Member	Student	R.Ph. SDSHP Non-Member	Tech. SDSHP Non-Member	Spouse/Guest (Meals)	PharmD Resident Member	PharmD Resident Non-Member
Full Registration**	\$150	\$50	\$25	\$200*	\$65*	\$50	\$100	\$150*
Before March 15 th	\$175	\$60	\$30	\$225*	\$75*	\$55	\$125	\$175*
After March 15 th								
One Day Registration***								
Friday - April 1 st	\$110	\$40	\$15	\$110	\$40	\$30	\$75	\$75
Saturday, April 2 nd	\$90	\$35	\$15	\$90	\$35	\$30	\$50	\$50
Make Check Payable to: SDSHP								
Total Enclosed \$ _____								

*Registration Fee includes membership for 2011.
 **Full Registration includes all educational sessions, exhibits, meals.
 ***One-Day Registration includes educational sessions, exhibits and meals for that day only.

PAYMENT MUST ACCOMPANY REGISTRATION FORM

If your practice site is paying for your registration, please have someone from your Business Office contact SDSHP (telephone: 605-627-5363) or (e-mail: sdsHP@mchsi.com) ASAP for information on how to proceed with the registration and payment procedure.

Registration will also be accepted at the door for an additional \$50.00 fee.

Check or Money Order Payment: SDSHP, PO Box 393, Bruce, SD 57220-0393

Credit Card Payment: www.sdsHP.com
 (Note: On-Line Credit Card Option closes at midnight on Thursday, March 30, 2011)

_____ CHECK HERE IF YOU HAVE SPECIAL NEEDS OR REQUIRE SPECIAL ACCOMMODATIONS _____ Tax ID#: 46-0339056

MEDICAL MISSION TO BETHLEHEM

Thanks to your SD Pharmacist Magazine we can come back to you and report a very successful 2010 spring medical trip to Bethlehem. Supplies were taken into the hospitals, clinics and the Arroub refugee camp, with 680 needy people receiving care and medications in 5 days. The response from the Midwest area was magnificent and proved to us all the compassion that is instilled in the hearts of your professionals. Please except our deepest gratitude.

We are inspired and called to continue this project and our next medical team will be leaving April, 2011. Plans are being made and funds raised for the trip. We have received applications for wheelchairs from the refugee camp and we are working with Hope Haven to fulfill this need. Surplus orthopedic supplies have been donated and arrangements will be made to have them delivered.

A Physical therapist who works with children with special needs will be joining the team. We are thankful for her expertise and willingness to go as there is a tremendous need in that area that is currently not being addressed. The physician who was part of the last spring group is now working with us to secure supplies and share her expertise as we move forward. Time and time again we find those who go and actually see the situation, come back with a dedication to continue being helpful in every way possible.

We are extremely fortunate to have an "on site" mission coordinator. Christy Reiners lives in Bethlehem 6-7 months of the year. She has been working with the U.S. churches and organizations in I/P that have helped to identify the most urgent needs. We have a list of equipment and medications which we are in the process of acquiring but we need Physicians and Pharmacists to complete the delivery. Although our main focus is on serving those in need of medical help, we also allow time for participants to experience the culture and the beauty of the Holy Land. In Bethlehem we regularly welcome between 80 – 120 buses a day so it is safe to travel. As you walk "In His Steps" you will gather everlasting memories to bring back with you. Come and join us for a rewarding experience of a lifetime.

We would like to ask for your continued encouraging support in recruiting medical practitioners for the upcoming 2011 spring medical mission.

For more information please refer back to your spring edition of the SD Pharmacist Magazine.

Check our web site: info@holyland.org, contact Project Coordinator Norma Saylor: kensaylor@iw.net, or Michelle Giovannelli: megiovannelli@columbus.rr.com. Michelle returned from the medical trip April, 2010 and will be leading the medical team in 2011.

Pharmacy is for the Birds!

(Or in this case, the Birds are for Pharmacy!)

**Join host Steve Aamot for a hunt to remember
and raise funds for SDSU's College of
Pharmacy's future pharmacists!**

**Dakota Hotspots is proud to sponsor a world-class pheasant hunt,
Mar 18-20th, 2011 at the Dakota Hotspots
Hunting Lodge in Kennebec, SD (www.dakotahotspots.com)**

Friday evening: Social & Sporting Clays

Saturday: Pheasant Hunt & Dinner with the Dean

Sunday: Morning Pheasant Hunt

Package Cost: \$1000* (Partially Tax-Deductible)

***cost of hunting license not included**

For more information or to make your reservation,

contact Steve Aamot at 605-229-4695,

or Stacey Kutil at Stacey.Kutil@sdsufoundation.org or 605-366-3618



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AND THE LAW

By Done R McGuire Jr., R.Ph., J.D

This series, Pharmacy and the Law, is presented by Pharmacists Mutual Insurance Company and your State Pharmacy Association through Pharmacy Marketing Group, Inc., a company dedicated to providing quality products and services to the pharmacy community.

CAN YOU FILL IN ON SATURDAY?

Joe, the owner of Town Drugs, called and asked his friend Sandy to fill in next Saturday so Joe could attend a wedding. Joe and Sandy's friendship goes back many years, so Sandy agreed. Sandy has filled in for Joe maybe two to three times per year and Joe sends Sandy an IRS form 1099 at the end of the year. Unfortunately, Sandy misfilled a prescription on that Saturday and the patient was injured. Joe and Sandy had not contemplated what they would do in the event that an error occurred. What are the ramifications for this lack of planning?

From the owner's perspective: Joe has had a regular patient injured and he feels terrible about it. The patient may or may not want to transfer their prescriptions. Does Joe's store insurance policy cover this claim? It depends on Sandy's status. Joe's store policy covers his employees, but clearly Sandy is not an employee here. Joe isn't making any withholdings and isn't giving Sandy a W-2 at the end of the year. Other types of workers may be covered under the store's policy. They include temporary workers, leased workers and volunteer workers. Sandy is most likely an independent contractor, but Joe didn't check his liability policy before the loss to see if his store's policy covers independent contractors. If not, the store's policy won't cover this claim.

From the relief pharmacist's perspective: Sandy filled in at Joe's assuming that Joe's store policy would cover her while working there. More than likely, the policy covering Sandy's regular employer will not cover Sandy while she is working at Joe's. So, very easily Sandy could wind up with neither policy covering her. Sandy could have purchased her own policy, but didn't think it was necessary since she was only filling in two or three times per year.

One possible result is that neither pharmacist has insurance coverage for this incident. Joe's pharmacy will be held liable for this error because it was the pharmacy that dispensed the errant medication. Sandy is liable because she is the pharmacist who misfilled the prescription. Joe

and Sandy could end up fighting about who is going to take care of the injured patient and their long friendship could dissolve. Now, what should Joe and Sandy have done?

Planning for the unexpected takes a little time, but it is crucial in the event that something bad happens. Joe and Sandy should have been working under a written contract. The contract should clearly state Sandy's status with Joe's store (i.e., independent contractor, temporary worker, employee, volunteer, etc.). Depending on the agreed upon status, Joe should review his policy to verify coverage for Sandy's activities. Joe should also make sure that Sandy has her own insurance policy as a fail-safe measure, regardless of whether he believes that his policy will cover her. Sandy would want to do this for her own peace of mind also. Joe and Sandy can also allocate risk in their contract and decide ahead of time who will be responsible should an error occur. This might have saved their friendship. Many times, such an allocation of risk could be covered under Joe's policy if it meets the definition of a covered contract. This is more likely to be true when the contract deals with the conduct of Joe's business. Which it does in this case.

Many pharmacists view requests to fill in as minor, friendly exchanges. No one expects bad things to happen. Unfortunately, lack of planning could result in them being a stressful, life-changing event. Take some time and plan ahead.

© Don R. McGuire Jr., R.Ph., J.D., is General Counsel at Pharmacists Mutual Insurance Company.

This article discusses general principles of law and risk management. It is not intended as legal advice. Pharmacists should consult their own attorneys and insurance companies for specific advice. Pharmacists should be familiar with policies and procedures of their employers and insurance companies, and act accordingly.

FINANCIAL FORUM

This series, Financial Forum, is presented by Pro Advantage Services, Inc., a subsidiary of Pharmacists Mutual Insurance Company, and your State Pharmacy Association through Pharmacy Marketing Group, Inc., a company dedicated to providing quality products and services to the pharmacy community.

DISCOVER THE VALUE OF DOLLAR COST AVERAGING

Whether you're a novice investor or you've been following the market for years, one thing you know is true: the market is constantly changing. The never-ending ups and downs can make it hard to determine when would be a good time to buy. Fortunately, there is an investment strategy that can help compensate for swings in the market and make the decision a little less troublesome for you.

A widely recognized investment strategy known as dollar cost averaging offers a systematic approach to investing. By following this plan, you invest a specific dollar amount at set times, regardless of where the market may be at the time. One of the advantages of this strategy is that it can be applied to a wide variety of investment vehicles.

As you know, the market price of an investment fluctuates. By using dollar cost averaging, you can buy more shares when the price is low, but you buy fewer shares when the price is high. While that seems fairly elementary, the interesting thing is that by spreading out your investment dollars this way, the average cost you pay per share can actually end up being lower than the average price per share over an extended period. The following example illustrates how this can happen.

Let's say you decide to invest \$500 a month in a certain investment on the first of the month, and monitor that plan over a five-month period in the market. For illustrative purposes, we'll say the market prices at the beginning of each of those months are \$10, \$8, \$6, \$5, and \$8. Your steady \$500 investments would buy you 50 shares the first month, 62 the next, and then 83, 100, and 62 again in the subsequent months.

By the end of that five-month period, your total investment of \$2,500 will have bought you a total of 357 shares. That amounts to an average cost per share of \$7. However, if you take those five prices on your purchase date and divide, the average price per share over that same time period was \$7.40. While a mere forty cents per share may not seem like a big difference, your \$2,500 investment would only purchase 337 shares at the average price – a full 20 shares short of what you

have accumulated through dollar cost averaging.*

The key to this long-term investment strategy can be summed up in just one word — constant. You need to remember that you could still lose money if the investment you purchase declines in value, so dollar cost averaging is not a guarantee of profit. However, it can keep you from investing all of your money at one time, perhaps at a higher price. To follow this strategy, you need to consider your ability – both financial and emotional – to stick with the program in both rising and falling markets.

Dollar cost averaging helps take the guesswork out of trying to time your investments, allowing you to focus on asset accumulation. As an additional benefit, because you buy more shares when the market is down, you'll be in a better position for potential gains if the market rebounds.

To find out whether this strategy would be appropriate, you need to evaluate your individual situation and your investment objectives. You may find, however, that this is just the right kind of plan to keep you on track and working toward your goals.

*This example is for illustrative purposes only and does not reflect the performance of any particular investment.

Provided by courtesy of Pat Reding, CFP™ of Pro Advantage Services Inc., in Algona, Iowa. For more information, please call Pat Reding at 1-800-288-6669.

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Continuing Education for Pharmacists

Volume XXII, No. 1

Natural Products: Bovine Cartilage to Bupleurum

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Goals. The goals of this lesson are to present information on the claims, mechanisms of action, typical dosages used and other items of interest on natural products and nutraceuticals alphabetically from bovine cartilage to bupleurum, and to provide background information for assisting others on their proper selection and use.

Objectives. At the conclusion of this lesson, successful participants should be able to:

1. exhibit knowledge of the claims, mechanisms of action, and typical dosages for natural products and nutraceuticals presented;
2. select from a list, the synonyms for these products;
3. describe popular uses of the products discussed; and
4. identify sources for information on natural products.

This lesson is part of a series that presents an overview of the common uses, proposed mechanisms of



Gossel



Wuest

action, typical dosage regimens and other information of interest on natural products and nutraceuticals. Products reviewed in this article are listed in Table 1.

The paramount difference between drugs and natural products was explained in the first article in this series. However, since natural products are a controversial topic for some people, the authors restate that the information presented is neither a promotion of nor a condemnation against their use. It is merely an overview of what has been reported in both the public and scientific literature, and certainly not an in-depth treatise. Additional sources (websites) of information on natural products are provided in Table 2.

Bovine Cartilage, also known as antitumor angiogenesis factor (anti-TAF), bovine tracheal cartilage (BTC), catrinx, psoriacin, and rumalon, is mainly comprised of collagen and proteoglycans. The latter contains a core protein referred to as mucopolysaccharide or glycosaminoglycans (GAG). The principle GAG in bovine cartilage is chondroitin sulfate.

There is some, but inconclusive, evidence that bovine cartilage may have antiarthritic and antitumor activities when taken orally. Its

mechanism for antitumor activity has not been discovered, but it has been suggested that the chondroitin sulfate in bovine cartilage may have immunomodulatory activity against arthritis. Chondroitin is commonly used in combination with glucosamine as a dietary supplement for treating arthritis. Other oral uses for bovine cartilage include treatment of allergic reactions caused by chemical toxins, cancer, herpes infections, psoriasis, scleroderma, and ulcerative colitis.

Topically applied bovine cartilage is claimed to have wound-healing activity by stimulating growth of granulation tissue within the wound. This action would establish a matrix that induces wound repair. Conclusive proof of this activity is lacking at this time.

Topically, it is used to treat psoriasis as well as acne, dry socket after tooth extraction, external hemorrhoids, poison ivy and poison oak dermatitis, and pruritus ani. Bovine cartilage is used rectally for treating internal hemorrhoids.

By subcutaneous injection, bovine cartilage is used for treatment of cancer of the cervix, lung, nose, ovaries, pancreas, prostate, rectum, and thyroid. Additionally, it

Table 1
**Natural Products Covered
in this Lesson**

Bovine Cartilage
Bovine Colostrum
Branched-Chain Amino Acids
Brewer's Yeast
Bromelain
Broom
Buchu
Bupleurum

Table 2
Representative Sources for Information on Natural Products

American Botanical Council	www.herbalgram.org
Facts and Comparisons	www.factsandcomparisons.com
Food and Drug Administration	www.fda.gov (<i>click on Food</i>)
National Center for Complementary and Alternative Medicine of the National Institutes of Health	www.nccam.nih.gov
PDR for Herbal Remedies PDR for Nutritional Supplements	www.pdr.net
Pharmacist's Letter	www.naturaldatabase.com

is injected subcutaneously to treat osteoarthritis and rheumatoid arthritis, psoriasis, regional enteritis, systemic sclerosis, and ulcerative colitis.

Very few adverse effects have been reported with the use of bovine cartilage. Nausea and diarrhea with oral use end when therapy is discontinued. When injected subcutaneously, it may cause localized redness, itching, swelling and allergic reactions, but up to 40 grams per week and a total of 300 grams have been injected subcutaneously without evidence of toxicity.

A typical dosage of bovine cartilage that has been reported for oral use in treating ulcerative colitis is 3 grams four times a day. The oral dose for treatment of cancer is 3 grams every eight hours or 9 grams per day in two to three divided doses.

Topically, a 5 percent cream is recommended for pruritus ani, two or more times daily for three days; poison ivy/oak dermatitis, every two hours initially and less frequently as the itching subsides with resolution in one to two weeks; and, acne, application at least twice daily after thorough washing of the acne lesions.

For dry socket, powdered bovine cartilage is mixed into a paste with normal saline and packed into the socket after extraction of the tooth. In treating psoriasis, a 5 percent ointment is applied to the affected

area two or three times a day after washing. The ointment is mixed with 0.1 percent coal tar for application to dry, elevated lesions, followed by the ointment with or without coal tar, to red and smooth skin after initial sloughing of psoriatic skin has been accomplished.

Rectally, a 2 percent bovine cartilage suppository is inserted at least three times a day. Adjunctively, 100mg of docusate sodium is taken orally as a stool softener.

For subcutaneous use, bovine cartilage is diluted 1:10 with a 1 percent lidocaine solution to reduce discomfort. It is used in a 50mg/mL concentration. Typically, 1.25 to 2.5 grams of bovine cartilage (25 to 50mL of the mixture) are injected slowly under the skin of the abdomen, anterior thigh, anterior thorax or flanks for a total of 5 grams per treatment. This is given weekly or biweekly for a total dosage of 25 grams for most conditions. Larger amounts are injected for arthritis, up to 40 grams; psoriasis, up to 75 grams; and cancer, 100 to 300 grams.

Local reactions to the injection can reportedly be prevented by taking 25mg of diphenhydramine orally along with the first four treatments.

Bovine Colostrum, also known as bovine immunoglobulin and cow milk colostrum, is the pre-milk fluid produced by a cow's mammary

glands during the first two to four days after the birth of her calf. It is rich in nutrients, antibodies and growth factors for the newborn. It contains proteins (three to four times greater than regular cow's milk), carbohydrates, fats, vitamins and minerals, as well as the immunoglobulins IgA and IgG in concentrations reported to be about 100 times greater than commercial dairy milk.

Hyperimmune bovine colostrum (HBC) is derived from cows immunized against specific pathogens. Currently HBC IgG concentrate is an orphan drug available for treatment of HIV patients with diarrhea caused by *Cryptosporidium parvum* infection. It is also used to treat diarrhea associated with bone marrow transplants and rotavirus diarrhea in children.

Claims have been made that bovine colostrum is a performance enhancer and anti-aging/healing supplement. It is used for stimulating the immune system, decreasing healing time, repairing damage to the nervous system, burning fat, building lean muscle, increasing stamina, elevating mood, and slowing or reversing the aging process.

Although there is adequate proof of effectiveness for HBC to gain orphan drug status for the *C. parvum*-induced diarrhea in HIV patients, there is insufficient evidence on its effectiveness for the other claims at this time.

There does not appear to be any significant adverse effects caused by bovine colostrum. Persons allergic to cow's milk would be allergic to it as well.

The typical dose for bovine colostrum is 10 grams of its powdered form, four times a day for 21 days for HIV-related *C. parvum*-induced diarrhea.

Branched-Chain Amino Acids (BCAA) also known as isoleucine, leucine and valine, are products containing the above three listed amino acids that comprise approximately one-third of muscle protein.

They are important for building and maintaining muscle mass, which leads to their greatest use by proponents. BCAA have been called "stress amino acids" by body builders and athletes undergoing intense exercise because muscles have a greater need for them in times of physical stress.

They are also used in the treatment of liver damage caused by alcoholism, to restore muscle mass in patients recovering from surgery or trauma, for amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease), and for hepatic encephalopathy (brain disorder caused by excessive toxic nitrogenous substances in the blood leading to coma and death).

The beneficial effects of BCAA before intense exercise are thought to be due to increased serum ammonia levels which decrease muscle breakdown. While not normally an essential source of energy, BCAA are important fuel supplies for skeletal muscle during metabolic stress. Therefore, they may assist in protein synthesis during extreme exercise, suppress protein breakdown and become substrates for glucose production.

Proponents of the use of BCAA for treating hepatic encephalopathy state that some of the symptoms seen in these patients are due to an accumulation of false neurotransmitters in the brain. This results, in part, from alterations in plasma levels of BCAA. Their opinion is that supplemental BCAA can reverse this and the encephalopathy-related damage. For healthy individuals not undergoing intense exercise, there is a lack of evidence that additional intake of BCAA is of any significant benefit.

The dose range of BCAA-containing nutritional supplements is extensive, ranging from 200mg of each BCAA up to 5 grams of each. Concomitant biotin and vitamin B-12 are often recommended since they are required for BCAA metabolism.

Brewer's Yeast, also known as medicinal yeast, is derived from the fungus *Saccharomyces cerevisiae*. Its common name comes from the fact that *S. cerevisiae* causes the fermentation process used in brewing beer. Interestingly, other strains of *S. cerevisiae* are used in the fermentation of dough for baking bread. Those strains are called "baker's yeast."

Brewer's yeast was originally obtained as a by-product from brewing beer made from an abstract of grains and hops. It is rich in niacin, pantothenic acid, pyridoxine, riboflavin, thiamine, folic acid, vitamin B-12 and biotin. It also contains trace minerals including chromium and selenium.

Brewer's yeast has been such a popular dietary supplement that much of what is now produced commercially is grown specifically for the marketplace rather than as a by-product of the brewery industry. The supplement is made from dried, dead, crushed *S. cerevisiae* yeast cells.

Brewer's yeast is used to treat diarrhea, loss of appetite, chronic acne, and as a dietary source of vitamin B complex and protein. While not proven at this time, there is evidence that brewer's yeast may have activity in ending diarrhea caused by overgrowth of *Clostridium difficile* and enterotoxigenic *Escherichia coli* in the intestine. It reportedly reduces water and electrolyte influx into the intestine stimulated by toxins from these organisms.

There are reports that brewer's yeast can increase the activity of intestinal disaccharidases, saccharidases, lactase and maltase to alleviate nonbacterial-induced diarrhea.

A typical dose for brewer's yeast is 6 grams daily.

Bromelain (*Ananas comosus*), also known as bromelainum, bromelin, and plant protease concentrate, is a general term denoting a group of proteolytic enzymes derived from the stem and fruit of pineapple

plants. The type of enzymes contained in bromelain include cysteine proteases, acid phosphatases, peroxidase as well as amylase and cellulase. These enzymes have been used for years in the food industry as meat tenderizers and in cosmetics to improve skin texture. Pineapple has been used for centuries in tropical folk medicine as a digestive aid, cleansing agent for the skin and to promote wound healing.

Up until the FDA's Drug Efficacy Study Implementation (DESI) review in the 1970s, bromelain, papain and other proteolytic enzymes were commercially available prescription drugs commonly used for trauma-induced inflammation. These agents did not meet the safety and effectiveness studies required for continued marketing as "drugs" (i.e., proof of effectiveness for treating, curing or mitigating a disease or symptom), and they were removed from the market as prescription drugs. Since bromelain is a naturally derived substance, it returned to the market in the U.S. as a dietary supplement.

Bromelain continues to be used orally for acute post-operative and traumatic inflammation, arthritis, mild ulcerative colitis, minimizing angina attacks, muscle relaxation, potentiating antibiotics; as an anticoagulant, digestive aid, an adjunct to chemotherapeutic drugs for reducing and remitting tumors; and, to stimulate the immune system. Topically, bromelain is used for burn and wound debridement. While not approved for therapeutic use in the U.S., the German Commission E (similar to the FDA in this country) approved the use of bromelain for reducing surgical swelling and inflammation of nasal sinuses.

The mechanism of action for bromelain as a digestive aid is based on its ability to hydrolyze protein into smaller peptides and amino acids. Other activities are less well-defined, but claimed to involve proteolytic degradation of circulating immune complexes and inhibition of kinases for its anti-inflammatory effect; increased activation

of T-cells, interferon and tumor necrosis factor for its immunomodulatory action; and disruption of adhesion molecules on tumor cells for its antitumor effects. None of these have been proven at this time.

The typical dose of bromelain is 80-500mg three times a day, one-half hour before meals for seven to 10 days. Topically, a 35 percent lipid-based cream is applied to the burn/wound site, two to three times a day.

Broom (*Cytisus scoparius*), also known as bannal, broom tops, hog week, Irish tops, and Scotch broom, is native to southern and central Europe. It also grows in America along the East coast and Pacific Northwest as well as Africa, Chile and Japan. Often grown as an outdoor ornamental to hold loose soil in place on shore and river banks, the portion of broom used in herbal medicine is the short fragments of its twigs.

In times past, a fluid extract of broom was used as a cathartic (strong laxative), diuretic and emetic. In Europe, broom has been used for centuries as a tea to improve circulation in edema, lower blood pressure and for cardiac arrhythmias. It has also been used to induce labor and reduce hemorrhaging after birth.

An alkaloid derived from broom (sparteine) does have oxytocic and antiarrhythmic activity, similar to quinidine. Until the early 1900s, sparteine was used for these effects. The German Commission E has a monograph for broom listing it as an effective agent for functional disorders of the heart and circulation. In this country, FDA considers broom to be an unsafe herb and its use has diminished.

Buchu (*Barosma betulina*, *B. crenulata*, *B. serratifolia*), also known as booku, bucka, buka, and diosma, is indigenous to the Cape region of South Africa. The Hottentots (the natives living in the Cape region before European colonization) used buchu leaves to treat a

variety of ailments including gout, bladder disorders, enlarged prostate and rheumatism.

Buchu was first exported from Capetown to London in the late 1700s, and by 1821 was listed in the *British Pharmacopoeia* as a treatment for "cystitis, nephritis, urethritis and catarrh of the bladder." The German Commission E currently contains a monograph on buchu listing its uses for treating inflammation of the kidney, urinary tract infections and as a diuretic, but explains that its activity in these claimed uses has not been exhibited.

In the era of patent medicine in this country, buchu was hailed for use in the management of diseases ranging from diabetes to anxiety. It was included in early editions of the *National Formulary* for use as a diuretic and antiseptic. The use of buchu as a recognized therapeutic agent was abandoned in the U.S. in the mid-1900s with the discovery of thiazide diuretics and effective urinary tract anti-infectives. However, it is still used in Western world herbal medicine for urinary tract ailments, including inflammation of the bladder and prostate gland.

Bupleurum (*Bupleurum chinense*, *B. falcatum*, *B. fruticosum*, *B. rotundifolium*, *B. scorzoneri-folium*), also known as bei chai hu, chi hu, Chinese thoroughwax, hare's ear root, Sho-saiko-to, and sickle-leaf hare's ear, is a perennial herb native to China, but cultivated elsewhere around the world. It is a traditional Chinese herbal medicine with recorded use dating back over 2000 years.

Bupleurum is a member of a group of herbs the Chinese use to provide harmony in the body and energy. It has been used as a liver, spleen and stomach tonic and is claimed to alleviate fever and flu symptoms, promote perspiration, and relieve premenstrual syndrome and dysmenorrhea.

Other claimed benefits from the use of bupleurum include relief of

angina, anorexia, arthritis, asthma, bronchitis, cancer, common cold symptoms, constipation, cough, depression, diarrhea, epilepsy, inflammation, indigestion, lung congestion, malaria, muscle cramps, prolapsed uterus and ulcers. It has been used as an antifungal, antioxidant, antiseptic, antiviral, cholesterol lowering agent, immune system stimulator and sedative.

Bupleurum contains saponins (glycosides of plant origin that have surfactant activity) called saikosides or saikosaponins which are claimed to be liver protectants with beneficial activity in both acute and chronic liver disease. Saikosaponins also reportedly improve immune function by causing proliferation of B-lymphocytes and stimulating them to produce immunoglobulins and increasing macrophage activity.

A typical dose for bupleurum root is 1.5 to 6 grams daily. For the fluid extract (at a 1:2 ratio), 1.5 to 3mL daily is recommended.

Continuing Education Quiz

"Natural Products: Bovine Cartilage to Bupleurum"

(Knowledge-based CPE)



The South Dakota State University College of Pharmacy is approved by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. The Universal Program Identification numbers for this program are: #0063-9999-11-030-H01-P, #0063-9999-11-030-H01-T.

1. The principle glycosaminoglycan in bovine cartilage is:
 - a. chondroitin sulfate.
 - b. glucosamine.
 - c. immunoglobulin.
 - d. monosodium glutamate.

2. Bovine cartilage is claimed to have wound-healing activity by:
 - a. initiating the formation of fibroblasts.
 - b. lowering the action of epithelial tumor necrosis factor.
 - c. reducing the activity of phagocytic macrophages.
 - d. stimulating growth of granulation tissue.

3. Bovine Colostrum is produced by a cow's:
 - a. thyroid gland.
 - b. pancreas.
 - c. mammary glands.
 - d. liver.

4. Branched-Chain Amino Acids are important for:
 - a. alleviating nonbacterial-induced diarrhea.
 - b. building and maintaining muscle mass.
 - c. enhancing the activity of digestive enzymes.
 - d. lowering the long-term complications of diabetes.

5. Brewer's yeast is reportedly rich in all of the following vitamins EXCEPT:
 - a. ascorbic acid.
 - b. niacin.
 - c. pantothenic acid.
 - d. pyridoxine.

6. Brewer's yeast reportedly:
 - a. alleviates nonbacterial-induced diarrhea.
 - b. builds and maintains muscle mass.
 - c. enhances the activity of digestive enzymes.
 - d. lowers the long-term complications of diabetes.

7. Bromelain is derived from:
 - a. bananas.
 - b. broccoli.
 - c. papaya.
 - d. pineapple.

8. Although FDA considers Broom to be an unsafe herb, the German Commission E lists it as an effective agent for treating disorders of the:
 - a. pancreas.
 - b. heart.
 - c. kidney.
 - d. liver.

9. In Western world herbal medicine, buchu is used for ailments of the:
 - a. gastrointestinal tract.
 - b. respiratory tract.
 - c. urinary tract.
 - d. hepatobiliary tract.

10. A typical daily dosage range for bupleurum root is:
 - a. 5 to 25 mg.
 - b. 50 to 100mg.
 - c. 250 to 500mg.
 - d. 1.5 to 6 grams.

To receive 1.5 Contact Hours (0.15 CEUs) of continuing education credit, read the attached article and answer the 10 questions by circling the appropriate letter on the answer form below.

A test score of 70% or better will earn a Statement of Credit for 1.5 Contact Hours (0.15 CEUs) of continuing pharmaceutical education credit. If a score of 70% is not achieved on the first attempt, another answer sheet will be sent for one retest at no additional charge.

Learning Objectives - Pharmacists: 1. Exhibit knowledge of the claims, mechanisms of action, and typical dosages for natural products and nutraceuticals presented; 2. Select from a list, the synonyms for these products; 3. Describe popular uses of products discussed; 4. Identify sources for information on natural products.

Learning Objectives – Technicians: 1. Identify the principle ingredient in bovine cartilage; 2. Identify the source of bovine colostrums; 3. Name the amino acids in branched-chain amino acid formulations; 4. Identify sources of information for natural products.

"Natural Products: Bovine Cartilage to Bupleurum"

(Knowledge-based CPE)

Circle the correct answer below:

- | | |
|------------|-------------|
| 1. A B C D | 6. A B C D |
| 2. A B C D | 7. A B C D |
| 3. A B C D | 8. A B C D |
| 4. A B C D | 9. A B C D |
| 5. A B C D | 10. A B C D |

Course Evaluation – must be completed for credit.

1 Disagree - 7 Agree

Material was well organized and clear:	1 2 3 4 5 6 7
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The learning objectives were satisfied:	1 2 3 4 5 6 7

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List any learning gaps/skill needs not addressed in this course:

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This course expires on: January 3, 2014
Target audience: Pharmacists and Pharmacy Technicians

SDPhA LEGACY SCHOLARSHIP AWARD WINNER ANNOUNCED



Earl Hinricher, SDPhA President
Kayley Lyons, Award Recipient

South Dakota Pharmacists Association President Earl Hinricher (shown here with Legacy Scholarship recipient Kayley Lyons), Board Vice President Else Umbreit and Executive Director Sue Schaefer, were proud to be on hand at SDSU's annual Scholarship Luncheon as Kayley Lyons received her SDPhA Legacy Scholarship award.

"Kayley is a true student leader and wonderful ambassador of our college," stated Dean Dennis Hedge.

The Legacy Scholarship was established five years ago with the proceeds from the sales of Harold H.

Schuler's book, "A History of Pharmacy in South Dakota." The scholarship of \$500 is awarded to a SDSU College of Pharmacy student each year thanks to an endowment with SDSU's Foundation. "We are extremely proud to be able to sponsor students and assist them with their pharmacy education," stated SDPhA President Earl Hinricher. "Kayley has proven herself to be an incredible motivator with the students, and we are pleased to be able to honor her for her efforts."

OBITUARIES

Ronald J. Nelson

Ronald J. Nelson, 73, died Thurs., Oct. 14, 2010, at his home in Brookings, SD. Funeral Mass was held at 10:30 A.M. Mon., at St. Thomas More Catholic Parish in Brookings, with interment in the Grandview Cemetery, Gary, SD. Visitation was from 5-7 P.M. on Sun., with wake services following at Eidsness Funeral Home. Memorials may be directed to the Leukemia and Lymphoma Society.

Survivors include his wife, Barbara Nelson, of Brookings; children: Jeff Nelson of Turner, MT, Annette (Keith) Maine of Omaha, NE, Beth (Matt) Kenney of Sterling, VA, Kevin (Krista) Nelson of Atlanta, GA, Michael (Lisa) Nelson of Parker, CO, Mary (Rodney) Rohrer of Metamora, IL; and 13 grandchildren.

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