South Dakota Pharmacist

Vol. 23 No. 2

Spring Edition 2009

South Dakota Pharmacists Association
PO Box 518
Pierre, SD 57501-0518

SOUTH DAKOTA
PHARMACIST
Volume 23 Number 2

SDPhA CALENDAR

South Dakota Pharmacists Association
320 East Capitol
Pierre, SD 57501
(605)224-2338 phone
(605)224-1280 fax
www.sdpha.org

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

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*.

April

2 Sioux Falls Spring District Meeting
Ramada Inn & Suites, Sioux Falls at 5:30 p.m.

3-6 American Pharmacists Association Annual Meeting (APhA)
San Antonio, TX

12 Easter Sunday

15 Watertown Spring District Meeting
Minerva's at 6:30 p.m.

17-18 SD Society of Health-Systems Pharmacists (SDSHP) Annual Meeting
Sioux Falls, SD

29 Black Hills Spring District Meeting TBA

May

4 South Dakota Board of Pharmacy Meeting
Sioux Falls, SD

7-9 ASCP's Midyear Conference and Exhibition
"Focus on Residents and Nursing Facilities"
Orlando, FL

10-13 Legislative Conference
Washington, DC

June

**5-7 South Dakota Pharmacists Association (SDPhA)123rd Annual Convention, "The Art of Pharmacy"
Watertown, SD**

* Cover print "Spring Fever" courtesy of Terry Redlin

SOUTH DAKOTA PHARMACIST
The *SD PHARMACIST* is published quarterly (Jan, April, July & Oct). *Opinions expressed do not necessarily reflect the official positions or views of the South Dakota Pharmacists Association.* The Journal subscription rate for non-members is $25.00 per year. A single copy can be purchased for $8.

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ADVERTISERS

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PRESIDENT'S PERSPECTIVE

Cole Davidson
SDPhA President

Hello

District meetings are in full swing and one of the items on the agenda is election of district officers. As pharmacists we are seen as leaders in our community and workplace. I challenge you to take that ability and become officers in your district or state associations. You don't need to be a published author or have taken a Dale Carnegie seminar to be a leader. You just need a passion for pharmacy and a yearning to improve and protect the profession.

The association has be active in the South Dakota Pharmacy Alliance. This is a group consisting of SDPhA, SDSHP, SDSU College of Pharmacy faculty and student, South Dakota Board of Pharmacy and SDAPT. We have been able to improve communications and come up with some great ideas for the future of pharmacy in our state. The SD Pharmacy Alliance was an idea brought forth by Eric Kutcher, President of South Dakota Society of Health Systems Pharmacists. South Dakota Pharmacists Association looks forward to working together with our SDSHP membership as well as our membership representing other practice settings to help ensure we accomplish great things for pharmacy. Please contact Sue or other board members if you have any questions or problems regardless of your practice setting.

Our state convention will be here before you know it. The theme this year is "The Art of Pharmacy" We have some very timely continuing education which should be pertinent to everyone. One event in the line-up I am really looking forward to is the Friday evening reception at the Redlin Art Center. If you haven't had an opportunity to visit the Redlin Center it is quite an experience. I would also like to thank them for the use of the beautiful print on our journal cover. Another event is "Pharmacy Jeopardy" where we will see teams square off for pharmacy bragging rights.

Watertown also has many other fun activities for the entire family. Along with the Redlin Center there is the Mellette House, Bramble Park Zoo & Discovery Center, and the Goss Opera House which is currently featuring the King Tut exhibit. There is also the Aquatics Center with three water slides, nearly 19 miles of bike/walking trails, golf courses and many beautiful area lakes. If you are in to competition there is a mini triathlon scheduled for June 6th, contact the Watertown Community Recreation Center for more details. Mark you calenders for June 5-7 and join us for a great weekend of education, fellowship and fun!

Cole

Contribute to the 2008-2009 South Dakota Pharmacists Association District Dues and SDPhA Commercial and Legislative Fund!!

Visit our website at www.sdpha.org

Thank You for Your Support!

DIRECTOR'S COMMENTS

Sue Schaefer
Executive Director

We've just finished another legislative session, and this year was about average for pharmacy issues. Bob Riter has included his report and you'll find it within the pages of this issue. Many other state legislative sessions are going on concurrently and our NASPA exec group shares information and sometimes asks for assistance, making it an even busier time for all. This year, I watched with interest, various issues that many states had in common. The plant Salvia Divinorum and its hallucinogenic compound Salvinorin A made it to the big leagues. Unfortunately, law enforcement began seeing it on the shelves of local shops in the Black Hills and Sioux Falls area, which caused concern. Due to its hallucinogenic properties, it is currently being monitored by the DEA, but hadn't been scheduled. Many states felt it was a threat to the public's heath, and particularly young people, so they acted to make it illegal to possess it, and added an emergency clause, which makes it effective upon the signature of the Governor. We appreciated being contacted by lawmakers on this issue and worked closely with them to make the bill stronger.

Another legislative issue that caught my attention was an attempt to do away with one state's board of pharmacy. Much discussion ensued among the execs and I learned this wasn't an isolated case...it has been attempted or discussed in quite a few states due to budget constraints. I've always felt it was critical to work closely with our board of pharmacy and our college of pharmacy to support them in every way possible. Everyone has a role, and I'm proud of the way we support one another.

As you'll note in Ron Huether's column, the board is reviewing many administrative rules that affect you. Please take the time to ask questions and offer comments. We've all been given the opportunity to help make the laws and rules that affect pharmacy fair and effective. Take advantage of this opportunity and get involved in your profession's future, whether it be to work with the SD Pharmacists Association, offer comments to the South Dakota Board of Pharmacy, or support the students and the work of SDSU's College of Pharmacy.

Convention is right around the corner! We've got a wonderful line-up for you! You'll find it among the pages of this issue of The South Dakota Pharmacist and there's something for everyone. **This year, the SDPhA Executive Board included a new offer to thank pharmacy technicians who work so hard to assist you…the first 50 technicians will attend the Friday sessions FREE OF CHARGE!** This is our way of saying thanks. Please pass this information on to your technicians.

There are many important issues on the table right now with President Obama's Healthcare Reform pledge, etc.…we're working hard to be at that table to represent you. If you have thoughts, comments, concerns, we're here for you. Please don't hesitate to send me an email or pick up that phone. We need you all to stay connected as we continue to work every day to protect you, and enhance your opportunities and experiences in the highly-respected profession you've chosen.

Take care, have a wonderful spring and I hope to see many of you at district meetings and our annual meeting in June in Watertown!

Sue

Cops and Pharmacists
"A unique and necessary bond"

How many cops does it take to screw in a light bulb?? One, but they are never around when you need one!

Cops knew long ago that if we don't laugh at each other, our view can become cynical in short order. We also are very aware that productive operations require a team effort. I'm hoping I can pass on little information to strengthen the relationship I feel we already have with you, the pharmacist.

My name is Trevor Jones, I am currently employed with the South Dakota Division of Criminal Investigation. Prior to my current position as Assistant Director, I worked in the field as a Special Agent for over thirteen years. A percentage of my time while working in western South Dakota was chasing those individuals diverting controlled substances. I am very pleased to say that the pharmacists I dealt with were always cooperative and just wanted to do the right thing.

The information I will provide in this article should help you give an overall view of South Dakota's problem of pharmaceutical diversion plus give you an idea what we are doing to address the problem. Many of these statistics below will reinforce what you folks have known for a long time, South Dakota has a problem with diversion and it's not getting any better. As with many things in this world, the private sector, recognizes the problem long before government does. We are working on addressing this issue in multiple facets. First and foremost, we understand the stronger bond we have with you, the more effective our approach will be.

To provide a little background, our agency, covers roughly the entire state, with the exception of the nine reservations. That requires forty DCI agents from 12 field offices to cover approximately 77,000 square miles. We work every type of crime, theft, rape, homicide, major conspiracy drug distribution, and a host of others. Unfortunately, we don't get the luxury to focus on one crime.

Our first effort was to try to gather the needed statistics to illustrate how rapidly growing the problem was in our state. Anecdotally, we knew we were seeing more pharmaceuticals seized in patrol stops and search warrants, but what exactly were the numbers? In our cases alone, we almost doubled in the amount of cases worked involving Oxycotin and the like. In 2007, we worked 54 cases. In 2008, we were up to 104. As it stands in 2009, we are on target to reach 155+. These are just DCI cases; they do not include those worked by other departments in South Dakota.

Arrests statewide (this includes all depts) for Adderall, Oxycodone, and Hydrocodone all tripled in just three years (2006-2008). Lorazepam and Ritalin have seen a small increase. In that same time frame, the state has seen methamphetamine arrests drop almost forty percent. One could interpret from the data that meth users may be turning to a more available substance - pharmaceuticals.

Our second component was to focus solely on these investigations full time Thankfully, this past fall we were able to acquire an outside source of money that allowed us to hire two investigators to work pharmaceutical cases exclusively. These individuals, retired Rapid City Police department detective John Wenande and retired Minnehaha County Investigator Phil Toft have a combined experience of over 50 years of law enforcement. Since their official start up date in mid January, they have worked more cases than our organization did in the past three months. They are off to a great start and you may be seeing them at your pharmacy soon.

Our final effort was to research the possibility of implementing a prescription drug monitoring program (PMP) in South Dakota. As you are aware, many other states have such a program. These states are finding that the PMP primarily provides better care for patients and secondarily deters pharmaceutical diversion. Many of the stakeholders, including the pharmacy association, were an integral part of this effort. However, due to many factors, including a shortage of time and money, the idea is in a holding pattern. With the assistance of your Executive Director, Sue Schaefer and the S.D. Medical Association, we have applied for a grant provided by the federal government to research the program's viability in South Dakota and hope to be acquiring these funds in the future.

If you have information you would like to share, please feel free to email me. Thank you for your time. We look forward to strengthening the bond we have formed with you.

Trevor Jones – SD DCI
trevor.jones@state.sd.us

South Dakota Board of Pharmacy

Ron Huether
Executive Secretary

NEW BOARD MEMBER
Governor Michael Rounds has appointed pharmacist Marla Hayes to the South Dakota State Board of Pharmacy. Marla's appointment was effective January 22, 2009, and shall continue until October 1, 2011.

Marla graduated from South Dakota State University in 1987 and is continuing her education toward a PharmD degree through the University of Colorado. She is currently employed at Vilas LTC Pharmacy in Pierre. Her past work experience includes hospital, retail and regulatory pharmacy. Marla lives in Presho with her husband Steve, daughter Jaime (16), and son Nicholas (12). Her hobbies include quilting, gardening and music.

Marla replaces Duncan Murdy on the Board. Duncan served as a member of the Board for over 12 years after his initial appointment in 1996 by Governor Janklow and reappointment by Governors Rounds. He continues to serve the public as pharmacist and owner of Jones Drug and pharmacist at the Dakota Plains Surgical Center in Aberdeen.

Members of the South Dakota State Board of Pharmacy are:
Jeffrey Nielsen, RPh, Sioux Falls.....President
Arlene Ham-Burr, Rapid City.....Public Member
Arvid Liebe, RPh, Milbank.....Member
Stephen Statz, RPh, Sioux Falls.....Member
Marla Hayes, RPh, Presho.....Member

NEW REGISTERED PHARMACISTS
The following candidates recently met licensure requirements and were registered as pharmacists in South Dakota: James Gibbon, Tyler Lannoye, Andrew Johnson, Sara Redler, Troy Redler, and Kristin Williams.

PHARMACY LICENSES
New pharmacy licenses were recently issued to:

- Troy Redler, Redler's Long Term Care Pharmacy LLC, Dakota Dunes, SD.
- Lora Van Dyke, Med Vantx, Inc., Sioux Falls, SD.

NEWS FROM THE BOARD
Board meetings are open to the public. Pharmacists are encouraged to attend and provide testimony on agenda items. The planned meeting schedule for 2009 is: May 4 – Sioux Falls; August 6 – Sioux Falls; October 2 – Rapid City; December 11 – Sioux Falls. The specific location and agenda for each meeting is posted on our website approximately 30 days before the meeting.

Your input is valuable to the Board as we continue to review our administrative rules and make revisions to reflect the issues surrounding the changing practice of pharmacy. Rules currently being reviewed are:

- 20:51:01 Registration by Examination
- 20:51:02 Internship Requirements
- 20:51:04 Registration by Reciprocity
- 20:51:15 Pharmacies in Hospitals, Nursing Facilities, or Related Facilities
- 20:51:26 Sterile Products for Home Care Patients
- 20:51:28 Administration of Influenza Immunizations
- 20:51:29 Registered Pharmacy Technicians

The Board welcomes suggestions for changes and additions to these rules that will maintain or enhance pharmacy practice regulations that protect the health and welfare of South Dakota consumers. Please review these rules and contact Board members or staff with your questions or comments.

NOTES FROM OUR INSPECTORS

- Public must be able to read required signs: Required signs must be posted where the public can easily read the information.
- Inspectors must be able to read posted licenses and permits: Please make sure that licenses and permits are posted at a readable distance and that all licenses and permit numbers are clearly visible.
- Documentation of Technician Training: During inspections, inspectors will ask to see documentation of technician training. Your pharmacy must have proper documentation of training for each technician. When a technician is hired that has previously worked in another pharmacy, that technician still needs to be trained in the new pharmacy, and the training needs to be documented.

Continued next page

- Phone Call Identification: All pharmacy technicians, interns or clerks must identify themselves as such on any phone calls initiated or received while performing pharmacy functions.
- Name Tags: All pharmacy technicians, interns or clerks must wear a visible identification badge while on duty. The badge must include their first name and title.

CONTROLLED SUBSTANCES QUESTIONS

Looking for answers to controlled substances or DEA questions? The DEA has very helpful website: www.deadiversion.usdoj.gov/. The site contains lists of controlled substances by schedule, order forms, new regulations, Combat Methamphetamine regulations, and much more. Of particular interest to pharmacists is the "questions and answer" section. For example, this site addresses questions such as issuance of multiple prescriptions for CII medications, and information that can be clarified or changed on controlled substances prescriptions.

GET TO KNOW YOUR PATIENTS

There are very few facets the media has not covered or reported on when it comes to the issue of prescription drug abuse and misuse. We see it almost daily; actors in rehabilitation programs; athletes accused of steroid and growth hormone violations; political figures possibly involved in opiate diversion; and on and on.

However, there is an area that receives far less media attention – the misuse of prescription medications. As pharmacists we need to be alert to this growing problem. Every day, patients receive prescriptions from multiple prescribers, often acting in independent fashion from each other – primary care, specialists, emergency rooms, acute care clinics, etc. Often times, these practitioners rely on the patient to self-report on the medications they are currently taking, including over-the-counter medications. Many patients are obtaining medications from multiple retail pharmacies and mail order pharmacies. One could make the argument that most claims adjudications systems are designed to recognize drug interactions regardless of where the medications are being dispensed. We also know that because many inexpensive generic medications are available not all prescription data is captured through the claims process. Patients may decide to pay cash if this price is less than the co-pay. There may be dangerous drug interactions that go undetected until the damage has already been done.

The law requires us to counsel our patients or at the very minimum make an offer to counsel (see ARSD 20:51:25 Patient Counseling). What do we do if the patient refuses our offer to counsel? Do we document the refusal and move on to the next prescription waiting in line? We are all aware that time is a precious commodity in our pharmacy practice environment. Depending on the workflow of the pharmacy, if a pharmacist is asked to stop what they are doing to conduct the much needed patient counseling session, the efficiency of the workflow has potentially become compromised. A casual offer to counsel in our fast-paced world is often declined. Many patients would rather get home and read the patient advisory information and then call back if they have concerns or questions. Other patients may discard this information, relying solely on belief that the prescriber would never order a medication that could cause them harm.

So what are we going to do to protect our patients? Consider this simple step - make an attempt to talk to each patient. Organize your work processes to allow a pharmacist to be accessible or dedicated to the prescription pick-up window. Even if to say "Hello" to each patient and to ask them how things are going with their medication regimen. Being readily available to provide quality customer service is vital in the retail setting. Try not to get "lost" behind the counter. If the pharmacist-patient dialogue provides a comfortable atmosphere and you can make patients feel like there is time to talk to them, they are very likely to tell you things about their medication history you may not have learned otherwise. This medication history is required for your patient records (see ARSD 20:51:24 Patient Record System). If you have a new patient without an established relationship, a pharmacist should take some extra time to engage the patient directly to make sure there are no existing medications issues prior to the initial visit. You never know - establishing these relationships may be good for business and make you feel better about yourself as a pharmacist.

ALCOHOL OR DRUG PROBLEM?

Confidential Assistance is Available

If you are concerned about yourself or a colleague, please call the South Dakota Health Professionals Assistance Program (HPAP) to discuss your concerns anonymously. HPAP assists impaired pharmacists and pharmacy technicians to get the help they need without necessarily jeopardizing their license or registration. Call Maria Eining at 605-322-4048

SDPhA Legislative Days 2009

The 2009 SDPhA Legislative Days was held on January 22nd & 23rd in Pierre

SDSU Pharmacy Students visit the Capitol for Legislative Days

2009 Legislative Sesson

Robert C Riter
SDPhA Lobbyist

We had an active legislative session for the pharmacy profession again this year although it was not as busy as many years. Your profession continues to draw substantial attention from lawmakers.

We set out herein several bills which directly impacted you. Obviously there were other bills of significance, but these seem to have received the major attention. If you have questions regarding these measures, or any others, you can contact Sue Schaefer or myself.

The legislature approved and Governor Rounds signed SB 37. It establishes limited immunity for volunteers of the statewide emergency registry for the South Dakota Program (SERV SD). This was a concept in which Sue Schaefer was involved in discussions during the interim. It provides limited immunity to volunteers who register to provide services in the event of a catastrophic disaster/healthcare crisis. The immunity is similar to that which other good Samaritans receive statutorily. It does not protect instances where injury is caused by gross negligence or willful or wanton misconduct by the volunteer.

We testified in favor of SB 37 and also conferred with the Department of Health regarding our support on that issue. While there was some hesitancy in the initial committee, the measure did ultimately pass handily.

SB 36 revises the drug registration fees. This is a measure that the Department of Health presented to the Association prior to the legislative session. We personally met with the Department in advance of the legislative session regarding the impetus for the proposal. The increase will be from a $100 per three year registration fee to a $150 per three year registration fee. Initial estimates are that this will impact approximately 220 pharmacies. It is effective July 1, 2009.

HB 1090 prohibits the possession of Salvia divinorum. Violation is a criminal offense with differing punishment based upon the amount possessed. Numerous other states have passed legislation adding it to Schedule I and others have restricted or prohibited the sale, distribution and use of it. The Association provided information to the proponents as the bill worked its way through the legislature. The bill became effective on March 11, 2009 when it was signed by the Governor.

The legislature also passed SB 1202, which permits persons with insulin treated diabetes mellitus to obtain an endorsement on their commercial driver's license to drive a bus.

There were many bills of possible interest which were defeated. Those measures included SB 1127, which would have provided access to medical marijuana for certain qualified persons; SB 134, which would have provided health insurance coverage for contraceptive drugs and devices and SB 198, which would have required notice of certain immunizations which contain more than trace amounts of mercury. Also defeated was HB 1259, which would have limited the amount that may be charged for obtaining copies of medical records if the request was made pursuant to a claim asserted for social security disability or supplement security income.

The legislature also defeated HB 1218, which would have impacted fees collected by State departments and ultimately those paid by pharmacies and pharmacists. It would have called for an increase of 2½% per annum for each full year since a fee was implemented or last increased by statute. Also defeated was HB 1190, which would have reduced the sales tax on certain food items.

While the legislature was not as busy as some have been recently, it nonetheless required our time and attention. The legislative conference in late January was well attended by students and there were also a number of pharmacists present. The Association would be well served to solicit more attendance from pharmacists. The impact you can provide to the legislature's consideration of issues is vital to your profession.

We appreciated the opportunity to work with your President, Cole Davidson, Executive Director, Sue Schaefer, and the rest of your leadership. The efforts of your leaders, combined with the efforts of the individual pharmacists, lead to good results for this association during the 2009 legislative session.

SDPhA Convention Line-up
Ramkota Hotel & Convention Center

June 5-7, 2009 – Watertown, SD

All Educational Programs and Banquet
Marsh/Big Stone/Cottonwood
Heritage Theatre (Jeopardy)

Friday, June 5th

Friday Morning: Golf Event
Municipal Golf Course

Vendor Time: 10:30 a.m. – 3:30 p.m.
Swan/Whitewood

Lunch provided with noon CE
(family dining - Coteau/Heartland)

11:30 a.m. - 1:00 p.m.
"The Changing Demographics of Methicillin- Resistant Staphylococceus Aureus"
Tadd Hellwig, PharmD

2:00 p.m. – 3:00 p.m.
"Pharmacist-Technician Communication "
Rebecca Rabbitt, PharmD

3:30 p.m. – 4:30 p.m.
"Pharmacy Rules & Regulations from the Regulator's Standpoint "
Ron Huether, RPh

4:30 p.m. – 5:30 p.m.
"Prescription Drug Monitoring Programs"
North Dakota PDMP Coordinators/Users

Friday Evening

6:30p.m. – 9:00 p.m.
Redlin Art Center Reception
(heavy hors d'oervres)

Saturday, June 6th

6:30 a.m. – 7:30 a.m. Phun Run
Bramble Park Zoo Area

7:00 a.m. – 8:30 a.m.
Breakfast
(family dining - Coteau/Heartland)

8:00 a.m. – 9:30 a.m.
"Pharmacy Safety & Security"
RxPatrol, Ritch Wagner

10:00 a.m. – 11:30 a.m.
"New Drug Update "
Joe Strain, PharmD

11:30 a.m. – 1:00 p.m.
First Business Meeting and Lunch

1:00 p.m. – 2:00 p.m.
"Psychiatric Medications: Advisories, Warnings and Risks "
Eric Kutcher, PharmD

2:00 p.m. – 3:00 p.m.
"Pharmacy Jeopardy"

3:00 p.m. – 3:30 p.m.
SDSU/Mills Family Ice Cream Social

3:30 p.m. - 4:30 p.m.
Second Business Meeting

Saturday Evening:

5:00 p.m.
Past President's Soiree
Harvest Room

6:30 p.m.
Children's Pizza Party
Prairie Room

6:30 p.m.
Social/Banquet
Marsh/Big Stone/Cottonwood

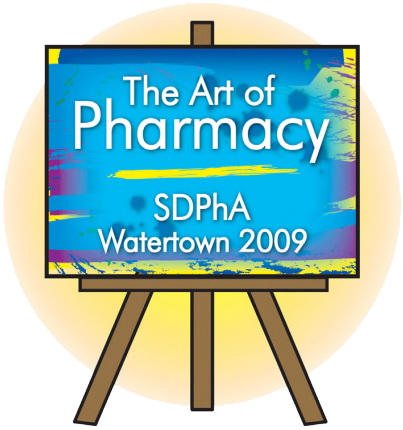
Sunday, June 7th

Breakfast: 7:15 a.m. – 9:00 a.m.

7:45 a.m. - 8:45 a.m.
"E-Prescribing II"
Chris Sonnenschein, PharmD

8:45 a.m. - 9:30 a.m.
"Preceptor Update"
Dan Hansen, Pharm D

9:30 a.m. – 11:00 a.m.
"Immunization Update "
Kelley Oehlke, PharmD



123nd Annual South Dakota Pharmacists Association Convention

Registration Form

Watertown, South Dakota June 5th-7th, 2009

All SDSU Student Registrations are FREE!
(Hotel not Included)
Registrations must be submitted prior to May 9, 2009

NEW!! **First 50 technicians to register attend free of charge on Friday!!**
(students & technicians must call (605)224-2338 to confirm)

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 9, 2009	$150	$90	$20	$90	$150	Free	$225	_____
After May 9, 2009	$175	$110	$25	$110	$175	Free	$250	_____
One Day Registration**								
Fri., June 6, 2009	$100	$50	$10	$50	$90	Free	$145	_____
Sat., June 7, 2009	$115	$65	$20	$65	$105	Free	$160	_____
Sun., June 8, 2009	$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	_____

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 _____

For Hotel Reservations Call:
Ramkota Hotel & Convention Center
1901 9th Ave SW (605) 886-8011

Cancellation Policy:
Cancellations will be accepted without penalty prior to May 16, 2009.
A $25 cancellation fee will be applied to all cancellations after May 16, 2009.
Refunds will be issued after June 15, 2009

Total Due $_____

Please send payment and registration to:

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

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

**One-day Registration includes educational sessions, exhibits, meals and evening event for that day

I will be participating in the golf event on Friday Yes___ No____
I will be participating in the phun run on Saturday Yes___ No____

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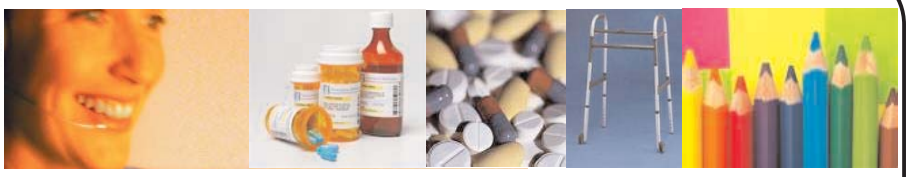

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South Dakota State University
College of Pharmacy

Dennis Hedge
Dean

Greetings from the SDSU College of Pharmacy! It is hard to believe that we are moving to the latter part of the school year. Over the next few weeks, we will select an incoming Pharm.D. class for next fall, have our annual Scholarships and Awards Banquet, and conclude our year with a hooding ceremony and graduation ceremonies.

The College will once again admit 70 students into the incoming Doctor of Pharmacy class. This year, the College received 300 applications and extended interview invitations to 128 of those applicants. As in past years, admission to the professional program remains very competitive. In addition to scrutinizing an applicant's academic record, we place great importance on a 30-minute interview and writing skills assessment. The interview and writing assessment allows us to better evaluate an applicant's communication skills, critical thinking ability, knowledge of the profession, and leadership potential. Each year, the College invites pharmacists from across the state to assist us with this process and we truly appreciate their participation.

In late January, we received an accreditation report from The Accreditation Council for Pharmacy Education (ACPE). At the January 7-11 meeting of the ACPE Board of Directors, the SDSU Doctor of Pharmacy program was reviewed for purposes of continued accreditation. Following discussion of the program, it was the decision of the Board that accreditation of the Doctor of Pharmacy program be continued. The accreditation term granted for the Doctor of Pharmacy program was for the customary six-year cycle, with an interim report.

Construction of the College's new home, the Avera Health and Science Center, continues to go well. We anticipate moving into the new construction just prior to Fall Semester 2010. Completion of the renovated portion of Shepard Hall (research laboratory wing) is scheduled for 2011.

Finally, as mentioned above, we will soon have our annual Scholarships and Awards Banquet. In addition to recognizing the accomplishments of our students, we will honor this year's recipient of our Distinguished Alumnus Award. On the evening of May 8, we will have our Doctor of Pharmacy Hooding Ceremony for our graduating P4 class and also present the College's Preceptor of the Year Award to one of our volunteer preceptors. Please be looking for featured articles on these events and our award recipients in the next College of Pharmacy Magazine.

Warm regards,

Dennis D. Hedge
Dean, SDSU College of Pharmacy

SDSU students at sixth annual White Coat Ceremony

"Each and every student being coated this evening has the responsibility to uphold all of the tenets of professionalism in pharmacy." *Ken Audus, speaking to P1 students at the White Coat Ceremony*

BROOKINGS, S.D. — Of all the compounds and capsules handled by practicing pharmacists, none is so valuable as trust.

To date, the profession has responsibly maintained the trust built by the previous generation. The annual Gallup poll on honesty and ethics of professions (released in late November 2008) found pharmacists ranking second only to nurses.

The status is a continuation of a long tradition, University of Kansas College of Pharmacy Dean Ken Audus told those gathered for the sixth annual White Coat Ceremony at South Dakota State University.
Pharmacists ranked number one in that poll from 1988 to 1998 and have trailed only nurses since 1999, except for a fourth-place ranking in 2001.

It is up to the seventy members of State's current P1 class to maintain the professional standards that allow pharmacists to be so highly respected by the public, Audus told a gathering of 700 students, friends, parents, and faculty members that filled Volstorff Ballroom.

SDSU Pharmacy Dean Dennis Hedge told the class of 2012 that the white lab coat the P1 students received was "symbolic of the professionalism expected of you not only at SDSU but throughout your career."

Professionalism must be earned
Audus reminded the students that professionalism must be earned by each practicing pharmacist.
"I submit to you students, it's not good enough that 90, 95 or even 99 percent of you uphold the tenets of professionalism as you take the next steps in your development. Each and every student being coated this evening has the responsibility to uphold all of the tenets of professionalism in pharmacy

Picture on the right: P1 student Kara Becvar puts on her white lab coat with assistance from Professor Xiangming Guan and Pharmacy Practice Department Head James Clem at the January 23 ceremony for the class's seventy students. Teresa Seefeldt, advisor for the Academy of Student Pharmacists, later lead the group in the Pledge of Professionalism.

The College's seventy P1 students recite the Pledge of Professionalism contained in the program for the January 23 White Coat Ceremony at Volstorff Ballroom. This is the third year for the College to enter seventy students into the four-year program. Photos by Eric Landwehr, University Relations

"All it really takes is a few or even one individual's actions to change the perceptions and to breach the bond of personal trust the public has in the pharmacy profession. When you lose that, your job as a health-care provider becomes far more difficult and very often questioned," Audus shared.

One bad apple
He gave the example of Robert Courtney, a Kansas City pharmacist who was arrested in 2001 for diluting an estimated 98,000 prescriptions during a nine-year period. Courtney reportedly made $19 million by fraud.

His crime was novel and, fortunately, pharmacists like Courtney are rare. He is apparently the first pharmacist to have diluted anticancer drugs for money. In February 2002, Courtney was sentenced to 30 years in federal prison without the chance of parole.

However, eight years later pharmacists are still asked about the sources of their medications and whether the doses are correct.

"To this day, the Missouri State Board of Pharmacy struggles with methods to satisfy the public's and the state legislature's demands for instituting regulations for compounding pharmacies to guarantee safety. Not surprisingly, that has been very difficult," Audus said.
While it may have been greed that motivated Courtney, Audus noted, "You never hear much discussion of the greed. The greatest concern of the patients is the broken bond of personal trust with pharmacist…

"Students, as you accept your white coat, I hope you will see it as more than a piece of garment or as a universal symbol of the health professions. I hope you see it as a powerful symbol of the awesome responsibility that pharmacists have as health-care professionals," Audus said.

Academy of Student Pharmacists

Jenna Kucera
APhA-ASP President

Greetings from APhA-ASP,

Spring is here and drawing people outside to enjoy the sunshine. The weather is nice enough for motorcycles and four-wheelers to be dusted off and driven to class. The first few months of 2009 have been busy for our SDSU APhA-ASP chapter. In mid-January, our chapter sent 32 student pharmacists to Legislative Days in Pierre. The night before Legislative Days our chapter was given a legislative update on issues that could affect how pharmacy is practiced in South Dakota. A delicious dinner was also provided at the legislative update, and I would like to thank the South Dakota Pharmacists' Association (SDPhA) for providing the meal. Early the next morning we arrived at the state capitol to perform blood glucose screenings, blood pressure screenings, and provide information about immunizations to people at the state capital. Legislative Days was again a great success and a wonderful learning experience for student pharmacists.

Our various committees have been busy planning and participating in events. Some of the highlights from this semester so far include the Awards committee organizing the White Coat Ceremony for the first year professional students (P1). The White Coat Ceremony symbolizes the entrance into the profession of pharmacy for P1 students, and the ceremony culminates with each student receiving a white coat. The Awards committee did a fantastic job organizing the White Coat Ceremony and was an event the entire SDSU College of Pharmacy could take pride in. Also, Tobacco Cessation hosted the first annual Anti-Tobacco Night for area middle school students. The lock-in was February 6th, on SDSU's campus. The night included pizza, dodge ball, scavenger hunt, movie, and dance. The committee even snuck in a health speech given by a SDSU faculty member. The sixty-six middle school students had a great time staying tobacco free, and we hope to turn this into an annual event.

Another responsibility of the Fundraising committee is organizing the Annual APhA-ASP Auction, our major fundraiser of the each year. Due to popular demand, this will be a two night event. The first night is April 1st in Brookings following the APhA-ASP meeting and will cater more to the students. The second night is April 2nd at the Ramada (1301 West Russell St.) in Sioux Falls beginning at approximately 7:30pm, as it will follow the Sioux Falls District SDPhA meeting. The proceeds from the auction go to our chapter and are used to defray costs for attending events sponsored by APhA-ASP like regional and national meetings. The auction is open to all and should be a fun filled night with many great items up for bid including a traditional Indian meal from Dr. Dwivedi, private airplane trip to Okoboji, rounds of golf, gift certificates, clothing, gift baskets, and a variety of other items. Your attendance would be greatly appreciated. Also, the Fundraising committee has compiled recipes for a cookbook, and the cookbook is now for sale. You may contact Michelle Eykamp (mleykamp@jacks.sdstate.edu) to order.

Our chapter is once again on the path of success this year. The chapter elected new officers, and I am excited to be working with these bright individuals. They have exciting new ideas, and I am looking forward to see the ideas come to life. Also, I would like to thank the outgoing officers for all their effort and commitment to our chapter over the past year. Each one was a pleasure to work with and made the year a great success.

The next event in store for our chapter is the APhA Annual Meeting and Exposition in San Antonio, Texas on April 3rd -6th. Eleven student pharmacists will be attending the meeting and will gain valuable information about pertinent pharmacy issues.

Sincerely Yours,

Jenna Kucera
APhA-ASP President
South Dakota State Chapter

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Pharmacists Mutual is endorsed by the South Dakota Pharmacists Association (compensated endorsement).

SD Society of Health-System Pharmacists

Eric Kutscher

SDSHP President

Hello to all the pharmacists, students and technicians of our great state:

SDSHP has been quite active over the last few months. We hosted our first independent reception at the ASHP Midyear Clinical Meeting in Orlando Florida last December. And the attendance was exceptional; the networking and reunions between old friends was enjoyed by all of those in attendance.

One of the most important initiatives to report, is that we have helped develop is the South Dakota Pharmacy Alliance. This group which consists of SDSHP, SDPHA, the Board of Pharmacy, the SDSU College of Pharmacy, and the South Dakota Pharmacy Technician Association has held two meetings thus far. The goals of this group are to improve the relationships between all pharmacy organizations in our state, prepare for future challenges, and to develop collaborations on pharmacy related issues that may impact our state. I am very impressed with all the individuals involved in this initiative and am very excited about the opportunities that this initiative will present for the future of pharmacy in our state.

SDSHP is pleased to announce the first joint evening continuing education event that has developed because of this alliance. This FREE evening CE event will be held on March 16th in Sioux Falls. At the time of writing this letter we have not held this event, but look forward to developing this into a frequent event that the alliance can provide for our state.

Continuing with the education theme, I am very excited to announce that on April 17-18, 2009 in Sioux Falls we will host our 33rd annual meeting. The overall theme is "Building a bridge to better health care" and will highlight a variety of important topics including: Medication safety, disposal of pharmaceutical waste and creating a green pharmacy, osteoporosis management, anticoagulation updates, and clinical pearls in emergency responses. I would like to personally invite all pharmacists, technicians and students to attend this meeting which should have value for every practice settings. Ten ACPE CE credits will be provided and registration information can be found at: http://www.sdshp.com/

Finally, I would like to say thank-you! Specifically, thank-you to all the pharmacists, technicians and students who have provided me with unlimited support during my term as president; I appreciate all that you have done to make pharmacy the great profession it is today. Without all of you, my term would have been difficult and the successes we achieved would not have been possible. Additionally, I am honored to report that at our annual business meeting, which will be held on April 18, I will be succeed by a highly competent and dedicated pharmacist, Jodi Wendte, PharmD. Please help me recognize Dr Wendte's accomplishments by attending this meeting.

Thank you all for your continued support of SDSHP and I look forward to visiting with all of you at our annual meeting in April. As a reminder please check our webpage often for practice updates and CE opportunities.

Eric C. Kutscher, PharmD, BCPP
President
South Dakota Society of Health System Pharmacists
www.sdshp.com

SD Association of Pharmacy Technicians

Ann Oberg
SDAPT President

Greetings Fellow Technicians!

As the old saying goes, "March comes in like a Lion and goes out like a Lamb"; and it was definitely the case in South Dakota this year. It is good to know that what we experienced for weather at the beginning of March is not likely to repeat itself for a while! If you know of a technician who has not already renewed their SDAPT membership, I would encourage you to speak with them. It really is a bargain at $35! A printable membership renewal form link is on our website, www.sdapt.org Some of the membership benefits are: SD Pharmacist Journal subscription (a $25.00 value), reduced registration fees for the SDPhA annual meeting (savings of $50), and free registration at our Annual Fall CE and Business meeting, where you get 4 hours of CE and a free meal!

I also encourage you to register for the upcoming state pharmacy conventions for SDPhA and SDSHP. The dates and forms to register are posted on their websites. The SDPhA meeting is on June 5-7th is in Watertown, SD. This year SDPhA will be offering **free** admission to technicians on **Friday** for the afternoon sessions and reception that evening at the Redlin Center. It is SDPhA's way of saying thanks and also to make sure techs know they're welcome at the convention. The convention has an excellent lineup, which includes a seminar on communication skills for the pharmacist-technician team and a law CE. The Technician of the Year awards will be given out that evening at the reception, which is a great time for pharmacists and technicians to network.

The SDSHP meeting is April 17th-18th in Sioux Falls at the Downtown Holiday Inn. SDSHP has graciously reserved a room for us to host a one hour meeting during their convention. In order that you do not lose an hour of CE credit, our presentation will be worth one hour of SD CE credit. Our meeting will begin at 10:15 a.m. on Friday and we will cover state and national technician issues. I encourage you to attend our meeting and also stop by our display located in the vendor luncheon/exhibit area.

SDAPT is looking for a few good men and women! We are in the process of looking for some good volunteers that are interested in becoming officers in our organization. Per our constitution and bylaws,

> **"The officers of the Association shall be President, Immediate Past President, President Elect, Secretary and Treasurer. The President Elect shall be elected biannually and shall ascend successively to the office of President and Immediate Past President; serving for two years in each of these positions. All officers shall be elected biannually, but may not hold the same office for more than two consecutive terms. No person may hold more than one office concurrently. The officers shall presently be members directly involved with the Association activities and shall have been a member the previous year. "**

We will have openings for President-Elect, Secretary and Treasurer. If you know of someone who is a current member and you would like to nominate them, please forward that information to our president-elect, Phyllis Sour at the email listed below.
We welcome your comments on how to make SDAPT a viable source of information for technicians. If you wish to volunteer for a committee or have questions on becoming a member, please feel free to contact me or any of the officers. I encourage you to become involved in SDAPT and all of the activities of our state pharmacy associations. Don't forget to stop and smell the tulips this spring!

"Ann, Phyllis, Sue, Nadine and Judy
Ann Oberg, President (akoberg@sio.midco.net)
Phyllis Sour, President-Elect (pep12009@rap.midco.net)
Sue De Jong, Secretary (sdejong99@hotmail.com)
Nadine Peters, Treasurer (nadine@pie.midco.net)
Judy Rennich, Past-president (jrennich@itctel.com)

PHARMACY PRINCIPLES FOR HEALTH CARE REFORM

DECEMBER 2008

Academy of Managed Care Pharmacy, American Association of Colleges of Pharmacy, American College of Clinical Pharmacy, American Pharmacists Association, American Society of Consultant Pharmacists, American Society of Health-System Pharmacists, Food Marketing Institute, National Association of Chain Drug Stores, National Alliance of State Pharmacy Associations, National Community Pharmacists Association, Rite Aid Corporation, Walgreen Co.

PHARMACISTS IMPROVE PATIENT CARE

Policymakers are discussing options to strengthen the nation's health care system, improve quality and safety, provide coverage and benefits for millions of uninsured and underinsured Americans, and respond to the challenge of meeting the health care needs of the American population, especially an aging America. Our nation's pharmacists play a critical role in providing affordable, accessible and quality health care. Decisions made to reform our health care system should enhance, fully recognize and utilize the professional skills and competencies of pharmacists.

Proper use of prescription medications helps improve quality of life and health outcomes. However, the health care system incurs more than $177 billion annually in mostly avoidable health care costs to treat adverse events from inappropriate medication use. The proper use of medication becomes even more important as treatment of chronic disease costs the health care system $1.3 trillion annually, or about 75 cents of every health care dollar.

Pharmacists have extensive clinical knowledge and expertise in the use of medications, and are one of the most accessible of all health care professionals. This makes them uniquely positioned in the health care system to help patients optimize appropriate medication use, reduce medication related problems and improve health outcomes through the delivery of pharmacist-provided patient care services, including medication therapy management (MTM), health promotion and education, and disease prevention and mitigation. The approximately 227,000 pharmacists in the United States practice in sites including pharmacies; hospitals; long-term care facilities; medical clinics and home health agencies; academic health centers; managed care organizations; and other health care settings where medications are used.

As the Institute of Medicine[1] has noted,

"…because of the immense variety and complexity of medications now available…the pharmacist has become an essential resource…and thus access to his or her expertise must be possible at all times."

PHARMACY PRINCIPLES FOR HEALTH CARE REFORM

The IOM report, Crossing the Quality Chasm: A New Health System for the 21st Century, identifies six aims for health care system improvement: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity. With these objectives in mind, we have developed three broad goals related to medication access and use that should be an integral part of the health reform discussion:

- Recognizing the role of pharmacists to help ensure that medication therapy is safe, effective, equitable, patient-centered, and results in quality outcomes;
- Ensuring that all Americans have timely access to prescription medications that are provided accurately and efficiently;
- Expanding the use of health information technology to support full integration of pharmacists as part of the health care delivery team.

We ask that policymakers consider the positions of our nation's pharmacists and pharmacies in three key areas. These recommendations are critical to helping patients make the most effective and safe use of their prescription medications and to maintaining a critical pharmacy delivery infrastructure.

REFORM PRINCIPLE 1
IMPROVE QUALITY & SAFETY OF MEDICATION USE

Pharmacists help achieve the best possible medical outcomes from the use of prescription medications through various types of medication-related services. These services include working collaboratively with physicians and other healthcare providers in recommending specific medications or changes in medications. Pharmacists also provide services to patients that help them better understand their medications and how to take them. Pharmacist services help prevent drug interactions and adverse effects.

Pharmacists also support public health prevention and education strategies. These include counseling patients on prevention and wellness issues, such as weight management and smoking cessation, as well as providing immunizations. In every state except one, pharmacists are authorized to provide one or more types of immunizations — influenza, pneumonia, and bio-defense-related vaccines — which are critical to promoting and protecting public health.

Health Care Reform Principles – Quality & Safety

- Principle I (A): Incorporate coverage for pharmacist-provided patient care services into public and private health care programs. These programs could include medication therapy reviews for those patients entering Medicare and for other patients with documented medical need, medication therapy management (MTM) services, as well as pharmacist-delivered immunizations.
- Principle I (B): Provide appropriate payment for pharmacist-provided patient care services. These payments could be based on pay-for-performance programs connected to specific evidence-based measures.

REFORM PRINCIPLE II
ASSURE PATIENT ACCESS TO NEED MEDICATIONS & PHARMACY SERVICES

A viable and accessible medication-delivery infrastructure is critical to patients' health. Patients should have ready access to both needed medications and services through a network of pharmacies and pharmacists. This is especially important given the burden of chronic illness, and impending retirement of approximately 80 million "baby boomers" who take more prescription medications on average than younger individuals.

Health Care Reform Principles – Infrastructure

- Principle II (A): Assure that all Americans have access to the services of well-educated and trained pharmacists competent to meet specific health care needs of patients by establishing and financing a comprehensive federal health professions workforce strategy.
- Principle II (B): Within the context of their prescription plan coverage, allow patients to choose the provider of both prescription medications, as well as MTM and other pharmacist-provided patient care services.
- Principle II (C): Provide appropriate reimbursement to pharmacists and pharmacies for the costs associated with obtaining medications, and payment for dispensing and administration services in order to assure accurate delivery to patients. Payment for dispensing should reflect the costs to dispense.
- Principle II (D): Ensure pharmacists can provide patients access to the most appropriate, cost-effective medications, including generic medications and biologicals, without any artificial impediments or barriers to generic substitution.

REFORM PRINCIPLE III
PROMOTE PHARMACY & HEALTH INFORMATION TECHNOLOGY INTEROPERABILITY

Health information technology is rapidly becoming an integral part of health care delivery in the United States. The use of electronic health records and electronic prescribing has increased dramatically in recent years, and the exchange of information among providers has significantly improved the delivery and quality of health care. Pharmacists should be able to interface in an electronic, interoperable health care system to provide the best possible quality of care to patients. The information obtained through interoperability will help pharmacists ensure patient adherence to their medication regimens, reduce medication related errors, and enhance medical decision making.

Health Care Reform Principles – Health IT

- Principle III (A): Provide pharmacists electronic access to critical patient health care information, including diagnosis and laboratory values. This information must be provided through an interoperable electronic health record system, including electronic prescribing, that supports multi-directional communications among various health care providers and settings.
- Principle III (B): Establish federal and state grants to health care providers, including pharmacists, that support the continued growth of an interoperable health care system.
- Principle III (C): Assure the appropriate flow of critical information within and among health care providers, including pharmacists, that is needed to make decisions regarding the best possible treatment for patients, while protecting patient information.

CONCLUSION

All Americans need access to prescription medications and to pharmacist-provided patient care services to help them optimize therapeutic outcomes and reduce the risk of adverse events from medication therapy. Health care reform provides an opportunity to advance these goals. Pharmacists are a highly trained and valuable resource, yet they are currently underutilized. Health care reform discussions should focus, in part, on strategies to maximize efficiency and safety of drug distribution while providing patients with access to the full benefit of pharmacist-provided patient care services to achieve better health care.

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[1] *Institute of Medicine. To Err Is Human: Building a Safer Health System. Washington, D.C.: National Academy Press; 2000.*

eHealth Collaborative Update

Jim Vachal, R.Ph
Brown Clinic

The South Dakota eHeath Collaborative recently met in Chamberlain. As this was the organizational meeting there was not a lot of definitive actions taken but we did prepared the organizational structure for SD to access stimulus funds directed at advancing interoperable health IT.

The Center for Advancement of Health Information Technology (CAHIT) has been set up at DSU to help coordinate all activities. They will collaborate with the SD DOH to act as a resource depository for achieving the goals of the eHealth Collaborative.

We also established the standing committees to address issues and provide the leadership to advance the adoption of technology. Those committees are:

1. Education/Outreach
2. Legal/Legislative
3. Policy/Governance
4. Privacy/Security
5. Technical

We directed a work group to research and prepare information about the connectivity capabilities and/or limitations in SD.

I was encouraged to hear the discussion that centered around pharmacists and pharmacy. There was general consensus that no solution for the implementation of a centralized Health Information Exchange(HIE) should be without the inclusion of pharmacy data. I also pointed out that the pharmacy industry has been electronically exchanging data for over 20 years and probably the most connected group of all healthcare providers. Look for more involvement as e-prescribing becomes wide spread.

All of the activities and presentations are available on the Collaborative website: www.ehealth.dsu.edu
If any SDPhA members have specific questions about activities of the Collaborative, please feel free to contact Jim.

The Burden of Diabetes in South Dakota—Common, Costly, and Controllable

- The prevalence of diabetes among Native Americans was 11% – nearly twice the prevalence of Whites (6.7%)
- Native Americans have a lower average age at death than Whites-66 years vs. 80 years respectively
- Native Americans are more likely to die from diabetes than Whites (8.6% vs. 3.2%)
- Of those making less than $25,000, 10.9% have diabetes versus 4.8% of those making more than $50,000 per year

From The Burden of Diabetes in South Dakota produced by the South Dakota Department of Health Diabetes Prevention & Control Program (DPCP). The full burden report , along with the Recommendations for Management of Diabetes in South Dakota guidelines and the South Dakota Diabetes State Plan 2007-2009 are available at http://diabetes.sd.gov or from the DPCP at (605) 773-7046 or colette.hesla@state.sd.us. These publications were developed as part of a statewide initiative to improve the health care of people at risk for and with diabetes.

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.

Comparative Fault.....

A prior article in this series discussed the elements of negligence which a plaintiff must prove in order to win their case. This article will discuss what occurs when the plaintiff themselves are also at fault in the case.

Under an older theory, this concept was called Contributory Negligence. This is when the plaintiff failed to act as a reasonable person and contributed to their own injury. We could see this occurring in pharmacy cases when the patient clearly recognizes that the tablets in the vial are incorrect, but takes them anyway. The impact that Contributory Negligence has on a case is dramatic. If the plaintiff contributed in any way to their injury, then they are entitled to no damages at all. There are 4 states and the District of Columbia that still use Contributory Negligence in some form. This harsh result may have been modified in those states.

The harshness of the Contributory Negligence concept has led the rest of the states to adopt a Comparative Negligence, or Comparative Fault, system. Under this concept, each party is assigned a percentage of fault with the total being 100%. If our patient above was assessed 10% of the fault in their case, then the verdict would be reduced by 10% and they could only collect 90% of their verdict. This is called Pure Comparative Negligence and is the law in 13 states. Remember the previous result under Contributory Negligence would be that the plaintiff would get nothing in this scenario.

One of the possible results under Pure Comparative Fault is that the plaintiff could be 95% at fault, but still recover 5% of the verdict in their case. This possibility has led some legislatures to modify Comparative Fault. This modification can take several different forms, but essentially bars recovery by the plaintiff if their percentage of fault meets or exceeds a certain threshold. In 11 states, this threshold is 49%, while it is 50% in 21 other states. In these jurisdictions, a plaintiff who is assigned 51% or more of fault will recover nothing. This is reminiscent of the results under Contributory Negligence.

In many ways, Modified Comparative Fault is a balancing act. The potential results under Contributory Negligence can be seen as unfair to the plaintiff who has only a small percentage of fault. On the other hand, allowing plaintiffs to proceed with cases where they have a high percentage of fault can be seen as unfair to defendants. Modified Comparative Fault attempts to balance the legal system by not encouraging potentially spurious claims, while at the same time, not discouraging legitimate claims.

In many pharmacy cases, the pharmacy or pharmacist wants to highlight the fact that the patient should have recognized that the tablets in the vial appeared different. This is an attempt to place some fault on the patient. While this argument is theoretically a good one, it does not work well in the real world. First, patients are almost trained to accept, without question, the endless sequence of different generic brands that are dispensed. Secondly, the plaintiff attorney is always quick to point out that if the plaintiff could have recognized the difference, then the trained professional should have been able to recognize the difference also.

Comparative Fault is not always important in pharmacy cases because patients are seldom in a position to seriously contribute to their own injury. However, it can be important in cases where the prescribing physician is a co-defendant. In these cases, fault can be apportioned between the patient, the pharmacy, and/or the prescriber. An example would be a case where the patient is prescribed a drug to which they are allergic. There could be fault apportioned to both the prescriber for prescribing inappropriately and the pharmacy for dispensing inappropriately.

The lesson for the pharmacist here is not that they know if Contributory Negligence or Comparative Fault applies in their state. They need to be aware that this concept exists and that in cases where negligence can be proved, there may be additional factors that will deny the plaintiff recovery or that may allow the pharmacy defendant to pay less than the total verdict. Also, be aware that the claims examiner and/or attorney working on your case will take these factors into account as they work to resolve your case.

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

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.

Getting to Know the Economy

Prudent investing takes more than detailed knowledge about different types of investment strategies. It also requires a clear understanding of the economy and how it works. That said, here is a description of some of the more important economic reports that you as an investor need to know about:

Gross Domestic Product (GDP): Provided quarterly by the Bureau of Economic Analysis, GDP offers the proverbial "big picture" on the U.S. economy. It measures the value of all goods and services produced in the United States during a calendar year -- minus exports, government spending and products made by U.S. companies in foreign markets.

When GDP increases, the economy is said to be growing or expanding. When GDP declines, the economy is said to be slowing or decelerating. When GDP declines for two consecutive quarters, many economists consider the economy to be in recession.

Consumer Confidence Index: This index can give you a good idea of how Americans generally feel about the current economic environment and future expectations. The index is published monthly by the Consumer Research Center of the Conference Board and is based on a representative sample of 5,000 U.S. households.

When people are positive about these issues, the index tends to go up. When they are pessimistic, it tends to decline. A rise or decline in the Consumer Confidence Index can have a major effect on the way Americans spend money. This is important because consumers make up about two-thirds of U.S. economic activity.

Employment Cost Index: This index is used to monitor inflation by measuring changes in labor costs for money wages and salaries and non-cash fringe benefits in non-farm private industry and state and local governments for workers at all levels of responsibility. It is provided quarterly by the Bureau of Labor Statistics.

Index of Leading Economic Indicators (LEI or ILEI): The Conference Board provides this index every quarter. It consists of 11 economic reports, such as initial unemployment claims, stock-market activity, building permits, new orders for consumer goods, plant and equipment orders and sensitive material prices.

Since the LEI consists of so many varied economic reports, it is generally considered to be a helpful gauge of future economic activity. In fact, three consecutive increases in the LEI suggest that the economy may have begun a longer-term expansion.

Industrial Production: This index, provided each month by the U.S. Federal Reserve, offers an informed view on how key industries are faring. Specifically, it shows the change in output for three sectors: manufacturing, mining, and the gas and electric utility industries.

Consumer Price Index (CPI): This index tells you whether prices are rising or falling. It's published each month by the Bureau of Labor Statistics. The CPI tracks the price changes for a fixed basket of goods and services, from bread and milk to cars and energy.

Rising inflation is negative for the economy because consumers must spend more money to buy the same basket of goods and services. A decline in inflation is generally positive because consumers can spend less to buy the same basket of goods and services, leaving them more disposable income to help prop up the economy. However, negative inflation, or deflation, is unfavorable, because both people and businesses minimize spending in hopes of getting the same goods and services at lower prices later.

Unemployment Rate and First-Time Jobless Claims: The unemployment rate is the percentage of American workers who are out of work. “First-time jobless claims” is the number of people filing for unemployment benefits for the first time. These important indicators are provided by the Department of Labor.

When unemployment rises, fewer people are working and, therefore, fewer consumers are spending money -- a negative for the economy. When the job market shows strength, more people are working, so more consumers are spending money, which indicates economic growth.

A Final Word

All of these economic indicators can affect the stock and bond markets, but other factors also move prices -- such as short- and long-term interest rates, corporate earnings and earnings guidance from chief executives, geopolitical events and general investor sentiment.

When you confer with a financial professional, you can get a sense of how these factors may affect the financial markets. More importantly, your financial professional can help you understand the potential impact of these and other economic indicators on your investment portfolio.

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continuing education for pharmacists

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Ischemic Stroke: Prevention and Treatment

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Goal. The goal of this lesson is to discuss ischemic stroke (cerebrovascular accident) with focus on its clinical characteristics and treatment.

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

1. recognize epidemiologic information and clinical characteristics relevant to ischemic stroke;
2. identify symptomatology that characterizes ischemic stroke and the principles that govern clinical confirmation and management; and
3. select from a list specific therapeutic measures that are reported to modify signs and symptoms of ischemic stroke.

Background

Worldwide, 5.5 million people die each year as a result of stroke. Another 15 million survive, but are disabled. In the United States, the incidence is at pandemic proportions; 700,000 individuals will be stricken annually, with 200,000 of these events being a recurrent event. Each year, about 46,000 more women than men in the United States experience a stroke. When considered separately from other cardiovascular disease, stroke ranks third among all causes of death in this country, behind heart disease and cancer. The mean lifetime direct cost of ischemic stroke per individual in the United States is estimated to be $140,048.

Gossel

Wuest

Pathogenesis of Stroke

Stroke can be caused by localized obstruction of the blood supply into an area of the brain due to its mechanical blockage in an artery (ischemic stroke), or by blood escaping from an artery within the brain (hemorrhagic stroke). It encompasses pathology in both the cerebrovascular and the cardiovascular circulations.

Cerebral ischemia resulting from large-vessel atherosclerosis (the most common cause of ischemic stroke) and coronary ischemia share common mechanisms including plaque accumulation within vessel walls, erosion and rupture, inflammation, apoptosis (natural or programmed cell death) and thrombus (clot) formation. Advancing age is a risk factor. Stroke prevalence varies by gender and race (Table 1). Studies have noted relationships between initial stroke, vascular risk factors (e.g., hypertension, diabetes, hyperlipidemia), and lifestyle risk (e.g., smoking, alcohol use, obesity, lack of physical activity). Factors correlating with recurrent stroke include large artery atherosclerosis, previous multiple strokes, disability after stroke and diabetes mellitus. Ischemic strokes are reported in American Heart Association statistics to account for 87 percent of all strokes.

Following ischemia-induced oxygen deprivation, some neurons die within minutes to cause irreversible brain injury. Surrounding the area of necrosis (the infarct) is tissue called the penumbra in which the blood supply is marginally sufficient to maintain minimal cellular activity. In the absence of sufficient blood supplied from adjacent arterioles (reperfusion) or with additional injury, a time-related death occurs to the penumbra and it will be incorporated into the infarct.

Hypertension. In humans, changes in blood pressure follow a reproducible pattern over 24 hours that includes a rapid early-morning surge associated with awakening. This response coincides with increased risk for stroke. In a meta-analysis of 31 published reports describing the circadian timing of 11,816 strokes, most events occurred between 6:00 a.m. and 12:00 noon. A similar variation was noted for different subtypes of stroke: ischemic (n=8,250), hemorrhagic (n=1,801) and transient ischemic attack (TIA) (n=405). It is logical to reason that antihypertensive agents and their dosing schedules should be selected that provide

Table 1
Prevalence and annual incidence of stroke by gender and race in the United States

Population	Prevalence (%)	Incidence*
Total	2.6	700,000
Total men	2.5	327,000
Total women	2.6	373,000
White men	2.3	277,000
White women	2.6	312,000
African-American men	4.0	50,000
African-American women	3.9	61,000
Mexican-American men	2.6	-----
Mexican-American women	1.8	-----
Hispanic or Latino	2.2	-----
Asian	1.8	-----
American Indian/ Alaskan Native	3.1	-----

*Includes new and recurrent strokes

Adapted from Dickerson LM, Carek PJ, Quattlebaum RG. *Am Fam Physician*. 2007;76:282.

adequate blood pressure control during the early morning hours.

The Role of Cholesterol. The linear relationship between serum cholesterol concentration and cardiovascular disease is more clear than that between serum cholesterol concentration and stroke. Most large epidemiologic studies have not separated the various types of stroke in terms of etiology, but have grouped heterogeneous mechanisms into the single category of ischemic stroke, weakening the likelihood of finding a clear association. One investigation reported that serum cholesterol levels higher than 280 mg/dL were associated with increased risk for death from ischemic stroke while concentrations less than 160 mg/dL were associated with increased risk for hemorrhagic stroke. Other studies demonstrated that cholesterol levels greater than 300 mg/dL were associated with increased risk for non-hemorrhagic stroke. The correlation between cholesterol level and stroke, while hazy, nevertheless associates lipid disorders to the pathogenesis of atherosclerosis in both cardiovascular and cerebrovascular disease and, as mentioned earlier, is noted as the primary cause of ischemic stroke.

Transient Ischemic Attack

Transient ischemic attack (TIA) is common with 300,000 events occurring annually in the United States. A TIA ("mini-stroke," "small-stroke") is experienced as a temporary focal (localized) neurologic deficit. The most common symptom is sudden onset of muscular weakness affecting one side of the body (hemiparesis). A sensation of numbness on one side of the body (hemiparesthesia), inability to speak clearly and/or imbalance, along with blurred vision or blindness in one eye and double vision (diplopia) are others. The focal and temporary nature of symptoms differentiates TIA from ischemic stroke. Lack of clear distinction between these afflictions with regard to other symptoms has led to the emphasis of a single criterion: TIA symptoms last less than 24 hours, typically only a few minutes. This short duration, followed by complete recovery and absence of neurologic deficit on examination, makes TIA particularly challenging.

Numerous prospective, observational studies have shown that following TIA, patients are at extremely high risk for a full-blown stroke. In one study of more than 1,700 patients who appeared in an emergency department with TIA, the 90-day risk of stroke was 10.5 percent. This was a 50-fold greater risk than expected for an age-matched cohort of persons without TIA. The risk of stroke was front-ended with over half of the secondary events appearing within the first two days. Twenty-one percent of the stroke victims died and another 64 percent were disabled. From these data it was concluded that for every 100 patients with TIA, 2.2 would die and 6.7 would be disabled within three months as a result of stroke.

The most urgent need for a patient with symptoms suggesting TIA or stroke is to identify the nature of the event, whether ischemic or hemorrhagic. Even though symptoms of TIA may have abated before initial consultation, a thorough history and examination can illuminate whether the patient has experienced similar events previously. It can also yield a preliminary assessment of risk factors and possible etiology.

Since symptoms are transient and may have nonischemic causes such as seizure and syncope, and since physicians rarely actually observe a patient during a TIA, it is often difficult if not impossible to confirm a diagnosis on the spot. Agreement between independent observers on TIA diagnosis is reported to be poor even among neurologists.

Atrial Fibrillation

Atrial fibrillation is a signature disorder of aging, with a prevalence of about 5 percent in persons aged 65 years and older and approximately 10 percent of those over the age of 80. With prevalence increasing, partly because of an aging population, it is projected that by year 2050 there will be an estimated 5.6 million people in the United States with atrial fibrillation, about half of them being over 80 years of age. Atrial fibrillation increases the risk of ischemic stroke by approximately five-fold and is the cause of an estimated 15 percent of all ischemic strokes in the United States. This proportion is even higher, approxi-

mately 24 percent, in persons aged 80 to 89 years. The prevention of atrial fibrillation-related stroke is an important public health concern since strokes occurring from atrial fibrillation result in higher mortality and disability.

Warfarin is highly effective in preventing atrial fibrillation-related stroke, reducing stroke risk by about 68 percent and mortality by 33 percent, and it also appears to prevent the most severe type of ischemic stroke. However, because elderly patients have both the highest risk for stroke without warfarin and the highest risk for hemorrhage with it, maximizing anticoagulation therapy while minimizing toxicity is a central challenge for its use in these persons. The drug's narrow therapeutic window and associated hemorrhagic toxicity can make anticoagulation management difficult. Optimal anticoagulation intensity, measured by the International Normalized Ratio (INR), is between 2.0 and 3.0. Low fixed-dose warfarin is ineffective in preventing strokes, although clinicians may settle for lower INRs in older patients. INR values under 2.0 significantly increase the risk for stroke. Older patients are less likely than younger ones to receive anticoagulation therapy and more likely to receive insufficient doses.

Aspirin provides some protection from stroke in persons for whom warfarin is contraindicated. Although aspirin reduces stroke risk by about 21 percent and has fewer hemorrhagic complications than warfarin, a randomized trial comparing the two treatments in persons between the ages of 80 and 90 years showed that more patients discontinued aspirin therapy compared with warfarin, mostly due to gastrointestinal side effects.

The warfarin arm of the Atrial Fibrillation Clopidogrel Trial with Irbesartan for prevention of Vascular Events (ACTIVE-W) study showed warfarin to be superior to combined clopidogrel (Plavix) plus aspirin with similar rates of hemorrhagic complications. Investigations into other antithrombotic agents continue; for now however, warfarin remains the most effective drug to prevent stroke in patients with atrial fibrillation.

Symptoms and Confirmation of Acute Ischemic Stroke

Acute stroke is characterized by the sudden onset of a focal neurologic deficit, although some patients experience a stepwise or gradual progression of symptoms. Common deficits include impaired speech (dysphasia), defective vision or blindness in half of the visual field (hemianopia), weakness, ataxia and sensory loss. Signs and symptoms are typically unilateral, and consciousness is generally normal or only slightly impaired. Persistence of any neurological deficit beyond two hours, even if the patient subsequently recovers, nearly always is accompanied by some degree of tissue destruction.

Ischemic stroke cannot be distinguished with certainty from intracerebral hemorrhage on the basis of signs and symptoms alone. In all patients with suspected stroke, computed tomography (CT, CAT scan) or magnetic resonance imaging (MRI) of the brain is necessary. Both CT and MRI have a high sensitivity for acute intracranial hemorrhage, but MRI has a much higher sensitivity than CT for acute ischemic changes, especially in the first hours after an ischemic stroke.

Prevention and Treatment

Patients with a history of ischemic stroke and/or TIA are high risk for subsequent cerebrovascular and cardiovascular events. Current guidelines for prevention support the aggressive modification of risk factors, including smoking cessation, reduction in alcohol consumption for heavy drinkers, weight reduction, antihypertensive therapy and rigorous control of blood glucose. Four antiplatelet agents have been shown to reduce the risk for recurrent ischemic stroke: aspirin, ticlopidine, clopidogrel, and dipyridamole. These are discussed subsequently.

Treatment of Acute Ischemic Stroke. Responses from numerous clinical trials are in agreement that patients who receive care in a primary stroke center are more likely to survive, regain independence and return home than are those who do not receive such specialized care. Once ischemic stroke has been confirmed, the next step is to determine whether the patient might be a candidate for thrombolysis therapy. Acute thrombolysis is the most promising approach to treat acute stroke.

Intravenous Thrombolysis with a Recombinant Tissue Plasminogen Activator (rt-PA). Despite FDA approval more than a decade ago and the fact that alteplase (Activase) is currently the only approved rt-PA treatment for this condition, alteplase reportedly remains underused in the United States. In one study, 69 percent of hospitals did not use thrombolysis at all. In hospitals that did (mostly those with a high volume of stroke patients), only 1 percent of stroke patients received thrombolysis. Other estimates are that 6 to 8 percent of ischemic stroke patients are potentially eligible for rt-PA based on published criteria, but only 3 to 4 percent receive it.

The National Institute of Neurological Disorders and Stroke Recombinant Tissue Plasminogen Activator (NINDS rt-PA) Stroke Study was a multicenter, randomized trial that demonstrated efficacy of treatment with intravenous alteplase started within three hours after onset of symptoms. Thirty-one to 50 percent of 624 patients receiving alteplase at a dose of 0.9 mg/kg of body weight, 10 percent of the dose given as a bolus and the remainder infused over one hour at a maximum total dose of 90 mg, had a favorable neurologic or functional outcome at three months, compared with 20 to 38 percent of patients given placebo. Symptomatic intracerebral hemorrhage occurred in 6.5 percent of patients receiving intravenous

rt-PA and in 0.6 percent of controls.

Intracerebral hemorrhage following thrombolysis is higher in patients with increased age and those with more severe strokes. Similar concerns have been voiced about the efficacy and safety of routinely using rt-PA in patients with early ischemic changes on CT. Further analysis of data from the NINDS rt-PA Stroke Study showed that in the first three hours after onset of symptoms, the appearance of ischemic changes on CT was not an independent predictor of increased risk of symptomatic intracerebral hemorrhage or other adverse outcomes following treatment with rt-PA. Several studies have concluded that intravenous thrombolysis with rt-PA can be used in the community hospital setting with efficacy and safety similar to that found in the randomized trials. The effect of aspirin in combination with rt-PA is unknown, so it is recommended that aspirin be withheld for 24 hours in patients treated with intravenous thrombolysis. Neither dipyridamole nor clopidogrel have been tested in randomized trials in the acute phase of ischemic stroke.

Anticoagulants. A meta-analysis of six randomized trials involving 21,966 patients found no evidence that anticoagulants (unfractionated heparin, low-molecular-weight heparins, heparinoids, thrombin inhibitors, or oral anticoagulants) administered during the acute phase of stroke improve functional outcomes. While their use does not improve overall functional outcomes, subcutaneously administered low-dose unfractionated heparin or low-molecular-weight heparin has been recommended in patients at high risk for deep venous thrombosis, such as those who are immobile. The use of heparin in patients with ischemic stroke, even progressing stroke, remains controversial.

HMG-Co A Reductase Inhibitors. These drugs (also called "statins") reduce stroke risk in persons with hyperlipidemia and are a powerful tool in stroke prevention. Non-statin lipid-lowering agents are not associated with decreased risk. The mechanism for statins is probably multifactorial. Reducing LDL-cholesterol levels is a benefit, but other actions may also be at play. These include effects on endothelial function, cell proliferation, inflammatory response, immunologic reactions, platelet function, and lipid oxidation. Statins have also been shown to prevent atrial fibrillation in patients in a number of different circumstances. One possible explanation may be that they reduce inflammation since markers such as C-reactive protein, which is increased in atrial fibrillation, are reduced by high doses of statins. Statins may also have independent neuroprotective effects since their use is associated with improved outcomes and functional capacity in patients who have experienced ischemic strokes.

Secondary Stroke Prevention

Recurrent stroke prevention is a high public health priority due to resultant morbidity and mortality, as well as the healthcare costs associated with disability. The majority of strokes in the United States are noncardioembolic ischemic events, so antiplatelet agents are the recommended first-line therapy for secondary stroke prevention.

Aspirin. Patients with a history of ischemic stroke treated with aspirin have a lower risk of stroke and death, compared with placebo. Both low-dose (50 to 166 mg/day) and high-dose (325 mg/day) regimens are similarly effective in preventing vascular events. Higher doses are associated with more gastrointestinal side effects and bleeding episodes. Specifically, patients receiving more than 200 mg/day for at least one month have more gastrointestinal bleeding, fatal or life-threatening bleeding and total bleeding episodes compared with persons receiving less than 100 mg/day. The overall risk for major bleeding associated with aspirin (75 to 500 mg/day) is small.

Clopidogrel. Clopidogrel (Plavix) is approved for prevention of recurrent vascular events (MI, stroke, vascular death). In one randomized controlled trial, persons with recent ischemic stroke, MI or symptomatic peripheral arterial disease received clopidogrel (75 mg) or aspirin (325 mg) daily for two years. There was a statistically significant difference in effectiveness (although of borderline clinical significance) with clopidogrel compared with aspirin (5.32 vs. 5.83 percent risk of ischemic events).

Clopidogrel has been studied in combination with aspirin for prevention of recurrent stroke; however, the combination therapy is not recommended in patients with a history of stroke. In one trial, more than 7,000 patients with previous stroke received clopidogrel (75 mg) plus aspirin (325 mg) or clopidogrel alone for 18 months. Combination therapy was not superior to clopidogrel monotherapy in preventing secondary ischemic stroke, MI, vascular death or rehospitalization for ischemic events. The combination regimen did increase the risk of life-threatening bleeding and major bleeding.

Dipyridamole and Aspirin. Extended-release dipyridamole and aspirin are available in a combination product (Aggrenox) approved for prevention of recurrent stroke. In one trial, 6,602 patients receiving dipyridamole (200 mg twice daily) plus aspirin (25 mg twice daily) experienced a lower risk of ischemic stroke and TIA over the two-year period compared with aspirin alone. Combination therapy did not increase the risk of major or minor bleeding.

Ticlopidine. In various studies comparing ticlopidine (Ticlid) with aspirin, the antiplatelet has shown both greater and lesser activity than aspirin in reduction of risk for secondary stroke. Ticlopidine is not typically chosen for first-line use because it carries a small risk for severe neutropenia and is associated with a risk of thrombotic thrombocytopenia purpura. This is a rapidly fatal or occasionally protracted disease due

to formation of fibrin or platelet clots in arterioles and capillaries of many organs.

Risk Factor Reduction in Persons with Cerebrovascular Disease. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure (JNC 7) recommends maintaining a blood pressure goal of less than 140/90 mmHg. The American Heart Association/American Stroke Association guidelines recommends slowly reducing the blood pressure to goal level. These guidelines state that hypercholesterolemia should be managed according to National Cholesterol Education Panel guidelines. Statins should be used to achieve an LDL-cholesterol level under 100 mg/dL, or less than 70 mg/dL for patients with multiple risk factors. Other lifestyle recommendations include smoking cessation with reduction or elimination of alcohol consumption. Patients who are heavy drinkers (more than five drinks/day) should eliminate or reduce their consumption; light to moderate intake (fewer than two drinks/day for men and one/day for nonpregnant women) may be considered. For weight reduction to a goal body mass index under 25 kg/m^2 and waist circumference less than 35 inches for women and less than 40 inches for men, patients should be encouraged to engage in physical activity for at least 30 minutes most days of the week.

Summary and Conclusions

Atrial fibrillation is a common affliction of older adults and a major risk factor for stroke. Its management is directed at preventing thromboembolism with warfarin, as well as controlling the heart rate and rhythm. Regardless of extent or duration of acute effects, TIA is a prodrome (warning sign) for ischemic stroke and carries the risk for secondary stroke comparable to that associated with ischemic stroke. Pharmacologic and nonpharmacologic interventions aimed at reducing the risk of secondary stroke should, therefore, be initiated as soon as possible after the initial event.

The content of this lesson was developed by the Ohio Pharmacists Foundation, UPN: 129-000-08-011-H01-P. Participants should not seek credit for duplicate content.

Continuing Education Quiz

"Ischemic Stroke: Prevention And Treatment"

1. The most common cause of ischemic stroke is:
   a. deep vein thrombosis. b. large-vessel atherosclerosis.
   c. myocardial infarction. d. variant angina.

2. The tissue surrounding the area of necrosis following ischemia-induced cell death due to oxygen deprivation is called the:
   a. thrombus. b. tamponade
   c. penumbra. d. plaque.

3. A meta-analysis of 31 published reports found that most strokes occur between:
   a. 12 noon and 6 p.m. b. 6 p.m. and 12 midnight.
   c. 12 midnight and 6 a.m. d. 6 a.m. and 12 noon.

4. The linear relationship between serum cholesterol concentration and cardiovascular disease is:
   a. more clear than that between serum cholesterol concentration and stroke.
   b. less clear than that between serum cholesterol concentration and stroke.

5. The most urgent need for a patient with symptoms suggesting TIA or stroke is to identify the:
   a. nature of the event. b. patient's blood type.
   c. renal perfusion rate. d. serum cholesterol levels.

6. The most effective drug to use to prevent stroke in patients with atrial fibrillation is:
   a. aspirin. b. digoxin.
   c. heparin. d. warfarin.

7. A patient with dysphasia is experiencing impaired:
   a. body movements. b. breathing.
   c. speech. d. swallowing.

8. The effect of aspirin in combination with rt-PA is best described as:
   a. effective. b. unknown. c. ineffective.

9. All of the following are true EXCEPT:
   a. the use of heparin in patients with ischemic stroke, even progressing stroke, remains controversial.
   b. HMG-CoA reductase inhibitors reduce stroke risk in persons with hyperlipidemia.
   c. patients with a history of ischemic stroke treated with aspirin have a lower risk of stroke and death, compared with placebo.
   d. combination therapy with clopidogrel plus aspirin is superior to clopidogrel monotherapy in preventing secondary ischemic stroke.

10. In patients with multiple risk factors, the National Cholesterol Education Panel guidelines state that statins should be used to achieve an LDL-cholesterol level under:
   a. 70 mg/dL. b. 60 mg/dL.
   c. 50 mg/dL. d. 40 mg/dL.

This course expires on: March 25, 2012
Target audience: Pharmacists and Technicians

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Learning Objectives - Pharmacists: *1. Recognize epidemiologic information and clinical characteristics relevant to ischemic stroke: 2. Identify symptomatology that characterizes ischemic stroke and the principles that govern clinical confirmation and management; 3. Select from a list specific therapeutic measures that are reported to modify signs and symptoms of ischemic stroke.*

Learning Objectives – Technicians: *1. Identify the most common cause of ischemic stroke; 2. Identify the 6-hour period of time in a 24-hour day that most strokes occur; 3. Name the most effective drug to use for prevention of stroke in patients with atrial fibrillation.*

"Ischemic Stroke: Prevention and Treatment"

(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

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Material was well organized and clear:	1	2	3	4	5	6	7
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OBITUARIES

Vivian Distad
October 21, 1918 - December 20, 2008

Memorial Services for Vivian A. (Ray) Distad, 90, will be held at a later date.

Vivian was born on October 21, 1918, in Aurora, South Dakota, the daughter of Winfred G. and Lucinda R. (Browning) Ray. She died on Saturday, December 20, 2008, at the Brookview Manor in Brookings.

Vivian received her education in the Brookings Schools and was a graduate of the Brookings High School in 1936. She continued her education at South Dakota State College and graduated with a degree in pharmacy in 1941. Following her graduation, she joined her father as a pharmacist. She was united in marriage to Walter Distad on August 5, 1946 in Sioux Falls, SD. After living briefly in Toronto, SD, they returned to Brookings in 1952. Vivian resumed work as a pharmacist with her father and sister Betty. She continued to work until her retirement in 1989. Walter died in May of 1991.

She was a member of the First Lutheran Church, Chi Omega, VFW Auxiliary, SDSU Alumni Association and Pharmacist Emeritis. She was actively involved with her children's activities which included scouting, Jobs Daughters, wrestling and other school activities. As time permitted she played Bad Bridge. She enjoyed traveling with her husband and spending time with her family. Her favorite place to spend time was her son's home at Lake Campbell which was constructed on the site of her father's lake cabin.

Vivian is survived by her children Rodney (Sherry) Distad of Brookings, SD, Linda Derscheid of Phoenix, AZ; her grandchildren Grier (Amy) Derscheid of Phoenix, AZ, Erika (Matt) Rittenhouse of Phoenix, AZ; five great grandchildren; and several nieces and nephews.

She was preceded in death by her parents, husband and one sister Betty.

Memorials may be directed to the American Cancer Society.

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