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South Dakota Pharmacist

Fall Edition 2008

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

SOUTH DAKOTA
PHARMACIST
Volume 22 Number 4

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."

South Dakota Board of Pharmacy
4305 South Louise Avenue
Suite 104
Sioux Falls, SD 57106
(605)362-2737
www.pharmacy.sd.gov

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*.

October *American Pharmacists Month*

1-31 American Pharmacist Month
1 License Renewals Due to Board of Pharmacy
5 Mitchell District Meeting
6:00 p.m. at The Depot
5 Mobridge District Meeting
6:00 p.m. at Bob's Steak House
11-15 National Community Pharmacists Association (NCPA)
110th Annual Convention & Trade Exposition, Tampa, FL
12 Huron District Meeting
6:30 p.m. at Ryan's Hanger
13 Native American Day
14 Sioux Falls District Meeting
5:30 p.m. at Bakker Crossing
15 Rosebud District Meeting
6:30 p.m. at the Homesteader in Gregory
17 PTCB Exam Application Deadline
Visit www.ptcb.org for more information
19-25 National Hospital and Health-System Pharmacy Week
19-25 National Consultant & Senior Care Pharmacists Week
21 National Pharmacy Technician Day
27 Black Hills District Meeting
6:30 p.m. at Fireside Restaurant
28 Watertown District Meeting
6:30 p.m. at Minerva's Restaurant
31 Halloween

November

2 Daylight Savings Time Ends
7-9 Academy of Student Pharmacist Midyear Regional Meeting-
Sioux Falls, SD
11 Veteran's Day
27 Thanksgiving Day

December

25 Christmas

January

13 Legislative Session Begins

* Cover photo courtesy of Chad Coppess, South Dakota Tourism

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

Support of our advertisers makes it possible to bring you news in the form of a Journal. When making purchases and other equal factors, please give our advertisers the support they deserve.

PRESIDENT'S PERSPECTIVE

Cole Davidson
SDPhA President

The fall chill is in the air and that means the cough and cold season is getting closer. Make sure to get out and help your customers choose the right products they need. It also means football season is here. September 13th was the annual College of Pharmacy Alumni Tailgate event at the Beef Bowl. There was an excellent turnout for the tailgating, the barbecue was delicious and football game was exciting. I plan on making this an annual event and hope to see you there next year.

The association sponsored the Welcome Back picnic for the pharmacy students on September 9th. Academy of Student Pharmacist President Dustin Schrader and his officers planned a fine event and had great attendance. I can tell there will be a lot of great pharmacists coming up through the ranks. I also plan on attending an ASP meeting this fall. Pharmacy Days are October 22-24 and SDPhA will be there to stay connected with our students and faculty.

Fall district meetings are in full swing with some already finished. These meetings are a great resource for you to stay updated with your association and catch up with colleagues in your area. Check the journal or our website and attend a meeting near you!

October is American Pharmacist Month and this is an excellent time to show off your profession to your customers. It could be as simple as public service announcements, brown bag seminars or hanging posters around the community. There are many resources available to assist you with this. Contact the association office or log on to www.sdpha.org for more information.

Being a certified immunization pharmacist, I have to touch on the importance of vaccinations. Just another way the pharmacy profession can use their skills to prevent the spread of diseases. I encourage you to look into becoming certified or if you already are, and need help getting started, give me a call.

Have a great holiday season.

Cole

Pharmacy Time Capsules
2008 (third Quarter)

1983—Twenty-five years ago:

* Sodium cellulose phosphate, former orphan drug, cleared for user in painful stone formation in patients with absorptive hypercalciuria.
* Accutane (isotretinoin) approved as an anti-acne agent.

1958—Fifty years ago

* Pharmacist salaries in NY were reported to be $3.50/hour while in California they were $4.00 hourly.

1933—Seventy-fie year ago

* Average weekly salary for a pharmacist (48 Hour week) was $33.08.

1908—One hundred years ago

* University of Mississippi initiates classes in its new college of pharmacy

By: Dennis B. Worthen Lloyd Scholar, Lloyd Library and Museum, Cincinnati, OH

One of a series contributed by the American Institute of the History of Pharmacy, a unique non-profit society dedicated to assuring that the contributions of your profession endure as a part of America's history. Membership offers the satisfaction of helping continue this work on behalf of pharmacy, and brings five or more historical publications to your door each year. To learn more, check out: www.aihp.org

SD Health Professionals Assistance Program

By Marie Eining, SD HPAP Program Director

What would you do if you or a colleague had a substance use disorder?

The South Dakota Health Professionals Assistance Program (SD HPAP) is a program created by South Dakota Codified Law (SDCL) 36-2A to address issues related to licensed professionals health and wellness. Specifically the SD HPAP is designed to help identify, refer to treatment and guide and monitor the recovery of licensed professionals or eligible students with substance use disorders including addiction.

Addiction is an illness that affects one of every ten individuals, and is a debilitating illness that may negatively impact a person's physical, emotional, spiritual or cognitive functioning. Addiction is found among all socioeconomic classes and is not selective in who it affects.

For pharmacists, technicians and students experiencing addiction; this illness can have detrimental effects on their occupation and licensure. Pharmacists are required to perform their duties with the utmost concern for patient safety. HPAP works to ensure public safety by providing a voluntary and confidential resource for pharmacists who might otherwise not seek services.

HPAP can assist pharmacists who are struggling with issues related to substance addiction. HPAP strives to assist Pharmacists in achieving and maintaining successful recovery, and helps them address career issues that may occur as a result of their illness.

HPAP is a professionally staffed, confidential program. The program recognizes that professionals served by the program are individuals who have dedicated their lives to helping others and are now in need of help themselves. Since its inception in 1996 the program has worked to assist hundreds of licensed professionals, including pharmacists, attain successful recovery and facilitate safe return, or continued practice.

The HPAP Program is structured with oversight by a Program Service Committee. This committee provides expertise by representing a variety of health professionals. In addition, HPAP benefits from the expertise of an Evaluation Committee whose members are selected by the Program Service Committee and function as a clinical advisory committee. The Evaluation Committee is a peer-review committee which advises HPAP staff on clinical matters. The pharmacy profession currently has a vibrant presence on the Evaluation Committee. Other HPAP staff includes licensed credentialed professionals who work in a highly confidential manner with expertise in addiction and mental health issues.

How do you refer someone?

Anyone is welcome to contact HPAP with referrals, including pharmacists who are seeking services for themselves. Many referrals also come from colleagues, family members, friends, hospitals, schools and licensing boards.

When an individual contacts the Health Professionals Assistance Program about a professional or about himself or herself, HPAP will assess the situation and assist in providing guidance. HPAP will strongly urge a pharmacist who is ill to get help, and although HPAP does not provide direct treatment, we will suggest treatment options. HPAP will respond to concerns of families, colleagues and hospitals by providing coordinated interventions and referrals to treatment. In addition, HPAP hosts a number of support group meetings throughout the state which are open to any pharmacists in recovery who are seeking peer support.

Who is eligible to participate?

HPAP can be a resource whenever concerns arise regarding substance addiction by a professional. Current participating professional licensing boards include the Board of Pharmacy, the Board of Nursing, the Board of Medical and Osteopathic Examiners, the Board of Dentistry, and the Certification Board for Alcohol and Drug Professionals.

Participation in HPAP is available to pharmacists who, at the time of application meet the following criteria:

- Hold professional licensure or certification from a participating South Dakota Board;
- Are eligible for and in the process of applying for licensure from a participating board;
- Have been accepted as a student in a program leading to licensure as a professional under one of the participating boards.

HPAP is also approved by SDCL as a "diversionary" program. (A diversionary program is used when there is not

an allegation of patient harm, there has been no other violation of law, the pharmacist agrees to participate in HPAP and follow the prescribed Participation Agreement). Thus when appropriate, a licensing board may defer disciplinary action, and instead refer individuals to HPAP. By serving as a diversionary program, the SD Health Professionals Assistance Program is able to provide confidential support services and assistance to a wider range of professionals facing drug and alcohol related problems.

At times, the Pharmacy Licensing Board will also enter directly into disciplinary or non-disciplinary agreements with pharmacists who face health challenges such as addiction. In these circumstances, HPAP monitoring can provide the Pharmacy Board with confirmation that a pharmacist is compliant with a treatment plan, while simultaneously providing the pharmacist with professional and personal support.

What is a Participation Agreement?

HPAP Participation Agreements help guide the recovery of the participating pharmacist. They serve a tool for documenting the recovery process and in helping pharmacists return to, or continue to practice in a manner that protects the public. When the Health Professionals Assistance Program determines that a pharmacist has a substance disorder and/or is at risk for impairment, the pharmacist is encouraged to enter into a HPAP Participation Agreement. The Participation Agreement specifies a course of treatment and documents the professional's compliance with that treatment plan and progress of recovery. The standard contract requires individual therapy, group support meetings, and regular contact with HPAP staff, random drug screens and regular interaction with a work site monitor whose role is to help document the pharmacist's progress in recovery.

How do I know the information provided to HPAP will be confidential?

Confidentiality is a cornerstone of the program HPAP recognizes the importance of respecting the privacy of those who come forward to seek help, and is committed to devoting its resources to protecting that privacy. It is critical to the South Dakota Health Professionals Assistance Program that those pharmacists who access the program feel secure that the information they share within the context of the program will remain confidential and will be protected to the full extent of the law.

Conclusion

The SD Health Professionals Assistance Program can be a valuable resource for pharmacists experiencing issues related to substance abuse or dependence. Through proper intervention and treatment it is possible for a pharmacist to achieve improved quality of life, to be productive and substance free. Recovery is a realistic expectation when the professional makes a commitment to wellness and is involved in the South Dakota Health Professionals Assistance Program.

To talk with an HPAP staff or for more information on this innovative program please contact:

Maria Eining, Program Director
SD Health Professionals Assistance Program
4400 W. 69th Street, #600
Sioux Falls, SD 57108
605-322-4048
605-322-4370 (Confidential Fax)

GOVERNOR RECOGNIZES SD PHARMACISTS

Executive Proclamation
State of South Dakota
Office of the Governor

Whereas, Pharmacy is one of the oldest health professions concerned with the health and well-being of all people; and,

Whereas, There are over 195,000 pharmacists practicing in the United States providing services to assure the rational and safe use of all medications; and,

Whereas, The use of medication, as a cost-effective alternative to more expensive medical procedures, is becoming a major force in moderating overall health care costs; and,

Whereas, South Dakota's pharmacists rose to the challenge of assisting many of South Dakota's citizens with the implementation of Medicare Part D; and,

Whereas, Today's powerful medications require greater attention to the manner in which they are used by different patient population groups, both clinically and demographically; and,

Whereas, It is important that all users of prescription and nonprescription medications, or their caregivers, be knowledgeable about, and share responsibility for, their own drug therapy; and,

Whereas, The American Pharmacists Association and South Dakota Pharmacists Association have declared October as American Pharmacists Month with the theme "Know Your Medicine – Know Your Pharmacist":

Now, Therefore, I, M. Michael Rounds, Governor of the state of South Dakota, do hereby proclaim October 2008 as

PHARMACISTS MONTH

in South Dakota.

In Witness Whereof, I have hereunto set my hand and caused to be affixed the Great Seal of the state of South Dakota, in Pierre, the Capital City, this Nineteenth Day of September in the Year of Our Lord, Two Thousand and Eight.

M. Michael Rounds, Governor

Attest:

Chris Nelson, Secretary of State

SOUTH DAKOTA BOARD OF PHARMACY

Ron Huether
Executive Secretary

NEW REGISTERED PHARMACISTS

The following candidates recently met licensure requirements and were registered as pharmacists in South Dakota: Sarah Caldwell, Cheryl Chamberlain, Kelsey Childress, Adam Dosch, Emilly Eben, Mandilyn Fliehs, Ruth Fonder, Michael Gulseth, Krystal Hanlon, Jacob Hansen, Laura Hansen, Matthew Hartman, Stephanie Heilman, Stefanie Janssen, Jessica Jennings, Jace Knutson, Melissa Lapic, Megan Leloux, Candice Lipcaman, Mallory Minahan, Jeremy Mueller, Evert Olesen, Katie Orton, Lindsey Osterkamp, Tarah Parsons, Greg Peitz, Katie Powell, Jesse Rickelman, Emily Rollins, Lea Rowe, Ryan Rubbelke, Michael Satterness, Obadiah Scheich, Jennifer Sirovy, Melissa Smith, Ashley Squier, Adam Stoebner, Dawn Swart, Sean Tingum, Pamela Vasgaard, Adam Waage, Megan Weber, Matthew Wedeking, Robert Wright, and Erin Zempel.

PHARMACY LICENSES

New pharmacy licenses were recently issued to:

- Krista Stevens – Bob's, a Walgreen's Pharmacy, Spearfish (change of ownership)
- Norm Kaufman – Main Street Pharmacy I Corporation dba Norm's Thrifty White Pharmacy, Freeman
- Nicole Musfelt – Target Store #T-2458, Rapid City
- Trisha Hadrick – Faulkton Pharmacy Inc DBA Faulkton Drug, Faulkton (change of ownership).

TECHNICIAN RENEWAL REMINDER

Each South Dakota pharmacy should have received renewal forms for technicians. Every technician working in your pharmacy must be registered with the Board of Pharmacy. New technicians will still use the two-page application form and have 30 days after hire to complete this requirement. Yearly renewal should be completed by October 31. Initial application forms and renewal forms may be downloaded from the board web site www.pharmacy.sd.gov.

OFFICE USE PRESCRIPTIONS

A recent question to the Board office asked whether an "office use" prescription is valid. The answer is no. Medications prescribed must be dispensed to a patient. When medication is sent from a pharmacy to a practitioner for administration, the transfer is actually a distribution.

The transfer of prescription medication is permitted from one registrant (pharmacy) to another registrant (pharmacy) or licensee (practitioner). Such transfer must be documented by use of an invoice record. The invoice record should have the name, strength, form of the medication, the name and address of both the seller and purchaser, and the date of sale. This invoice record should be kept with other invoice records.

If the medication being transferred is a controlled substance, there are additional invoice requirements. The invoice record must also include the DEA numbers of both the seller and the purchaser.

If the medication is a schedule II controlled substance, the purchaser must provide a DEA Form 222 to the seller before the transfer is completed.

Sales of both non-controlled substances and controlled substances to other registrants and practitioners should not exceed five percent of total sales during any consecutive 12-month period.

E-PRESCRIBING AND CONTROLLED SUBSTANCES

The United States Drug Enforcement Administration (DEA) is working on regulations to allow the use of electronic signatures for controlled substance prescriptions. Until those regulations are released, electronic signatures for prescriptions are not permitted for any controlled substances in any schedule. Therefore, it is not acceptable or legal for a prescriber to create an electronic prescription for a schedule III through V. drug and affix an electronic signature and then send the prescription to a pharmacy's fax or computer. This is not a valid prescription.

If a pharmacist receives this type of prescription, they should call the prescriber and verify the prescription by obtaining an oral prescription from the prescriber. The prescription can then be filled based on the valid oral telephoned prescription. It is also acceptable for

Continued next page

the prescriber to write or type a prescription for a schedule III through V. drug, physically sign the prescription, and then fax the prescription to the pharmacy. Electronically signed prescriptions are not acceptable for schedule II through V. drugs and are not valid.

EMERGENCY DRUG KITS

Pharmacies are often asked by correctional facilities or group homes to provide a supply of drugs for use in emergency situations. It is the position of the Board of Pharmacy that your pharmacy cannot provide an emergency kit with legend drugs for use in these facilities.

Currently, South Dakota laws and regulations permit a pharmacy to provide an emergency kit to nursing facilities.

Some of the applicable laws or rules that apply to this issue are as follows:

SDCL 36-11-2.7 Defines "dispensing" as the preparation and delivery of a drug to a patient or a patient's agent pursuant to a prescription drug order in a suitable container with appropriate labeling for subsequent administration to or use by a patient.

ARSD 20:51:15:15.01 Pharmacist controls emergency kit in nursing facility. (Please review this section in your copy of the South Dakota Board of Pharmacy laws and rules.)

In determining where emergency kits can be provided, the Board of Pharmacy's interpretation of a nursing facility is a facility licensed by the South Dakota Department of Health. Correctional facilities and group homes are not licensed by SD Department of Health.

Except where allowed by law or rule (i.e., emergency kits in nursing facilities or transfer of drugs to another properly licensed entity) pharmacists may only provide drugs to patients (see definition of dispensing). Providing or selling legend drugs in any other situation would be a violation of Board of Pharmacy rules and may result in disciplinary action.

Please call the Board of Pharmacy if you have any questions.

NOTES FROM OUR INSPECTORS

Power of Attorney

Documentation for power of attorney (POA), necessary for the procurement of schedule II medications, must be current and readily available. A POA must be on file at the pharmacy location for each staff person that has been delegated said authority. Please be ready to supply these forms when our inspectors visit your pharmacy.

Signs

Pharmacies dispensing prescriptions in an out-patient setting are required to maintain a minimum set of five signs required by the board. These signs must be visible to the public and appropriate staff must be able to accommodate proper responses in the event they are asked for explanation by the public. They include (paraphrased):

1. Free Choice of Pharmacy
2. Federal and State laws prohibit the refilling of certain prescriptions
3. Should any patient wish to discuss retail charges for prescription drugs or medications, they are encouraged to do so.
4. Return of unused drugs for the purpose of reuse, reissue, or resale is prohibited.
5. Pseudoephedrine / Ephedrine law.

Security

Security is an ever-present concern. Over the last few months, there have been security breaches to include: 1) after-hours break-in with the majority of all controlled substances lost, and 2) armed robbery during business hours. Please review your internal policies and procedures to ensure you have the best possible security measures in place. If you have any questions regarding recommendations, please don't hesitate to contact the board for advice and/or direction.

2007 Recipients of the "Bowl of Hygeia" Award

Wyeth Pharmaceuticals takes great pride in continuing the "Bowl of Hygeia" Award Program developed by the A. H. Robins Company to recognize pharmacists across the nation for outstanding service to their communities. Selected through their respective professional pharmacy associations, each of these dedicated individuals has made uniquely personal contributions to a strong, healthy community which richly deserves both congratulations and our thanks for their high example.

Wyeth Pharmaceuticals, Philadelphia, Pennsylvania

Wyeth Pharmaceuticals

**2007 recipient awarded in 2008*

Academy of Student Pharmacists

Dustin Schrader
APhA-ASP President

Greetings from South Dakota State APhA-ASP Chapter!

The start of September brings one thing to the minds of college students: the beginning of the fall semester. The beginning of the semester is an especially busy time for our chapter, and this year is no exception. On September 8th, we kicked off the semester with a Student Pharmacy Organizations Fair followed by the APhA-ASP Welcome Back Picnic. The fair was comprised of all the student pharmacy organizations in the SDSU College of Pharmacy, and pre-pharmacy and professional program students had a chance to learn more about the opportunities to become involved with the SDSU College of Pharmacy through these organizations. Students who visited all the student pharmacy organizations were entered into a raffle to win a Nintendo Wii given away at the APhA-ASP Welcome Back Picnic.

Following the Student Pharmacy Organizations Fair, the APhA-ASP Welcome Back Picnic started at Hillcrest Park. SDPhA sponsored the APhA-ASP Welcome Back Picnic, and SDPhA President Cole Davidson was also able to attend the picnic. Our chapter would like to thank SDPhA for their continued support, and Cole for attending our event. Overall, both events were a great success with over 150 students participating!

The next major event for our chapter is the Membership Drive on September 24th. The Membership Drive is an event that occurs every fall when our chapter seeks to renew membership of existing members and attract new members. Last year, our chapter set a membership record with 357 members and was recognized nationally for our outstanding membership. Our chapter hopes to continue the increase in membership this year.

Later this fall, the South Dakota APhA-ASP chapter has the privilege of hosting the Region V Mid-Year Regional Meeting. The event will be held on November 7th-9th at the Holiday Inn City Centre in Sioux Falls. We are given the opportunity to host Mid-Year Regional Meeting once every 8 years, and we are excited to showcase what the SDSU College of Pharmacy has to offer. Seven APhA-ASP chapters from around Region V will be descending upon Sioux Falls to attend and participate in the meeting. One of the major events is the hearing and passing of resolutions. To give some background information on resolutions, are stances we want APhA-ASP to take on pertinent and pressing pharmacy issues. If any pharmacists reading this article have ideas for resolutions, please e-mail them to our chapter's account asp_sdsu@yahoo.com so we can get in contact with you to hear your ideas. In closing, I would like to remind everyone October is American Pharmacists Month. Please take advantage of this golden opportunity to celebrate and promote the profession of pharmacy within your community and pharmacy practice setting.

Sincerely,

Dustin Schrader
APhA-ASP President

PRPOSED TECHNICIAN RATIO RULES

Comments Please!

Ron Huether, Exec Secretary with the Board of Pharmacy would appreciate your input on a proposed rule to allow for an increase of 3:1 for the Technician to Pharmacist ratio in certain circumstances. Please contact Ron at Ron.Huether@state.sd.us or Sue Schaefer, sue@sdpha.org with any comments, suggestions, or concerns regarding this important rule-making matter. Your opinions count!

20:51:29:19.02. Exception to ratio for retail, hospital and long-term care pharmacy.

The maximum ratio of pharmacy technicians to pharmacists that may be on duty in a retail, hospital and long-term care pharmacy is three technicians for every pharmacist on duty. However, if appropriate to the practice all of the following requirements must be met:

1. Medication is dispensed pursuant to a legal prescription;
2. Bar code technology is used in all aspects of the prescription filling process;
3. The technology includes tablet/product imaging;
4. High resolution scanners are used at order entry;
5. A role-based access software automation system, which places stop points within the prescription filling process, is used which requires pharmacist intervention before allowing the prescription to move to the next step in the prescription dispensing process;
6. Enhanced pharmacy software that screens and detects drug allergies, identifies drug interactions, and checks age appropriate dosage ranges is used;
7. A pharmacist reviews clinically significant computer warnings of drug interactions, therapy duplications, and contradictions;
8. Electronic surveillance technology is used to control access or to provide continuous monitoring of all areas where drugs are stored or dispensed;
9. All non-pharmacist personnel who input patient drug information into a computer or whose duties include receiving, packaging, shipping of drugs, or who have access to any areas where drugs are dispensed are registered as pharmacy technicians and meet the requirements in chapter 20:51:29;
10. Technicians above a 2:1 ratio must have completed a Board of Pharmacy approved technician education program and have passed a Board of Pharmacy approved pharmacy technician certification examination;
11. In retail pharmacies, patients have access to a pharmacist during normal business hours on a dedicated pharmacy staff line. In hospital and long term care pharmacies, nursing personnel in facilities served by the pharmacy have telephone access to a pharmacist 24 hours a day, 7 days a week;
12. Drug information, both electronic and hard copy, is readily available to pharmacists;
13. A quality assurance program that identifies and evaluates dispensing errors, accompanied by a continuous quality improvement program that assures very high dispensing accuracy rates in place;
14. There are written policies and procedures for all pharmacy functions – clerical, supportive, technical, and clinical;
15. There are written policies and procedures for training personnel, including on-going training programs for all personnel and documentation of that training for each employee.
16. There is a strict monitoring program designed to prevent diversion of controlled substances. This includes perpetual inventory of all schedule II controlled drugs as well as selected high-risk schedule III, IV and V drugs. Routine audits are conducted to review purchases versus dispensing of controlled drugs to deter and/or detect diversion.

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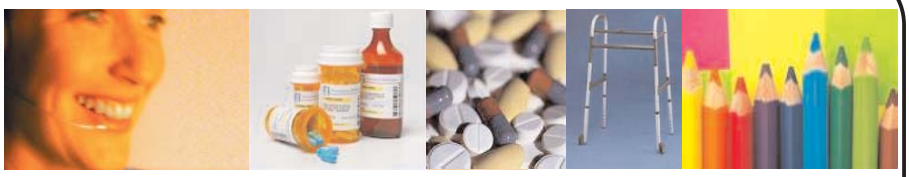

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SD Society of Health-System Pharmacists

Eric Kutscher

SDSHP President

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

The Board of Directors for SDSHP has been quite busy over the summer. We held a retreat in conjunction with our annual Gary Van Riper Golf Classic and Scholarship Dinner. This year's tournament was a huge success; we had over 15 teams in addition to a few student teams. Most importantly, we raised about $3000 to help support SDSU pharmacy student scholarships.

Beginning this fall we will announce a new membership initiative, so please watch your mail and e-mail for details. Also we will be updating our webpage and adding an online payment option for memberships and other SDSHP activities.

In December at the ASHP Midyear Clinical Meeting we will be hosting a reception for the pharmacists, technicians, and students of South Dakota. The tentative date and location is December 8 at the Peabody Hotel in Orlando, Florida. Notices will be sent when more information becomes available. The reception this year will be unique as it will be the first year that we are hosting the reception without combining with the Minnesota reception.

The SDSU, SDSHP, and ASHP Pharmacy Student Clinical Skills Competition will be held October 2, 2008. All pharmacy students are encouraged to participate. If you would like more information please visit http://www.ashp.org/s_ashp/docs/files/students/2008_CSC_Handbook.pdf.

Thank you all for your continued support of SDSHP as we work towards another successful year. 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 SOCIETY OF HEALTH-SYSTEM PHARMACISTS [SDSHP]

Box 7100 • University Station - Brookings, SD 57007-7100
sdshp@mchsi.com ♦ www.sdshp.com ♦ 605-627-5363

2009 MEMBERSHIP APPLICATION

Mission Statement: The mission of the South Dakota Society of Health-System Pharmacists is to provide leadership and education to support its members in helping people make the best use of medications.

Vision Statement: The South Dakota Society of Health-System Pharmacists aspires to be a highly effective professional organization developed to ensuring its members are valued members of the healthcare team.

(Complete and return with your payment to the address above.)

☐ **Regular** *[PharmD/R.Ph.]* **[$50.00]** ☐ **Associate** *[pharmacy support personnel*]* **[$20.00]**

Name:_____ Email Address:_____

Address:_____ City:_____ State:___ ZIP:_____

Home Telephone:_____ Work Telephone:_____

Employer:_____ ASHP Member: ☐ Yes ☐ No

Make check or money order payable to: SDSHP

Pharmacy Support Personnel includes: Pharmacy Technicians/Pharmaceutical Sales Representatives/SDSU College of Pharmacy faculty & staff who are not licensed pharmacists in SD.

SD Association of Pharmacy Technicians

Ann Oberg

SDAPT President

"Football, fall leaves, and pharmacy meetings"
Three things reminded me this weekend that fall has arrived in South Dakota: 1--We had our fall SDAPT meeting in Chamberlain this weekend, 2-The pin oak tree in front of our house is starting to turn color, and last- but not least, 3--I came home to a husband that was glued to the remote watching all the football games possible from Saturday through Sunday. If I ever needed another reminder that we are heading quickly into the fall season in South Dakota, that was it. Hmmm…time to hide the remote!

Membership update
As of September 1, we have entered the 2008-09 membership year. For all members from 2007-08, your membership expired at the end of August. We would love to have you back! Please know that our dues remain at $35 for the year and a membership renewal form is on the website (www.sdapt.org) for you to print out and mail into our treasurer. Some membership benefits are: SD Pharmacist Journal subscription (a $25.00 value), reduced registration fees for the SDPhA annual meeting (savings of $50), and the opportunity to impact the profession of pharmacy technicians by participating in the annual state meetings.

SDAPT Fall Business meeting and Continuing Education
The fall meeting was held on Saturday, September 13, 2008 at Cedar Shore Resort in beautiful Chamberlain, South Dakota. We are very grateful to Pharmacists Mutual Inc. for their continued sponsorship of our educational event. The meeting was attended by 29 technicians from across the state. The line up of speakers was fantastic. Our speakers and their presentations were: "Pharmacy Inspections: The Technician's Role" by Randy Jones, RPh; "Weight Loss Tricks and Traps" by Melissa Magstadt, MS, CNP; "Pandemic Influenza" by Melissa Magstadt, MS,CNP; and "Professionalism and Communication Skills for Healthcare Workers" by Darcy Sherman Justice, MS,CNP. We had great feedback on all the speakers and hope they will be able to join us for future meetings. We had a great weekend for our meeting and truly thank all of you that drove many miles to join us in Chamberlain. We held our business meeting after the CE's and went over the standard agenda on the operations of our technician organization. Some issues we discussed were continuing our affiliation with SDPhA, adjusting our constitution to reflect our new non-profit status and fund-raising for future meetings. The change to our constitution and bylaws and other information will be updated on our website in the next few weeks. I will also be loading the new members into our Yahoo groups site shortly and sending them an email to welcome them to the group. Also, a big thank you goes out to the SDAPT members for all the give-away items and door prizes that they brought and donated for our meeting.

We always welcome your comments and ideas on how to make SDAPT stronger. 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 of SDAPT. Stay involved in SDAPT and all of the activities of our state pharmacy associations.

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)

South Dakota Association of Pharmacy Technicians (SDAPT)
Membership Renewal
September 1, 2008--August 31, 2009

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WORK PHONE_____**WORK FAX**_____

CPhT (Yes or No)_____ **CERTIFICATION NUMBER**_____

PHARMACY TECHNICIAN____**Other** _____

PAST MEMBER OF SDAPT: YES____**NO**_____**NEW MEMBER**_____

Please list any other state or national pharmacy organizations you belong to

_____

_____

Are you willing to serve on a committee?_____

PLEASE MAIL CHECKS OR MONEY ORDERS PAYABLE TO:

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Do you prefer on site CE?_____ **Home study?**_____
Please list any continuing education topics you would be interested in.

_____

_____

_____

*****ATTENTION!! This form is for membership in the South Dakota Association of Pharmacy Technicians (SDAPT) only and should not be confused with technician registration that is required by the South Dakota Board or Pharmacy. Any fees submitted are non refundable.**

PROPOSED TELEPHARMACY RULES

Comments Please!

Ron Huether, Exec Secretary with the Board of Pharmacy would appreciate your input on a proposed rule to allow the practice of telepharmacy. Please contact Ron at Ron.Huether@state.sd.us or Sue Schaefer, sue@sdpha.org with any comments, suggestions, or concerns regarding this important rule-making matter. Your opinions count!

Section

20:51:30:01. Definitions. Terms used in this chapter mean:

1. "Automated mechanical distribution device," as defined in § 20:51:17:01;
2. "Central pharmacy," as defined in SDCL 36-11-71(1);
3. "Remote pharmacy," as defined in SDCL 36-11-71(2);
4. "Telepharmacy practice," as defined in SDCL 36-11-71(3);

Source:
General Authority: SDCL 36-11-11(1), 36-11-71(2),(3).
Law Implemented: SDCL 36-11-11(1),(4),(5), 36-11-71.

20:51:30:02. Application for remote pharmacy site. No remote pharmacy may be established, operated, or maintained unless the board issues a license. An application for licensure to establish, operate, or maintain a remote pharmacy shall be made on a form provided by the board. A set of blueprints and documentation showing that all requirements of this chapter have been met shall be provided to the board with the application for licensure. The initial license fee for a remote pharmacy is $200. The board shall approve or disapprove an application within 60 days of receipt. The board at its discretion will consider the needs of the community when issuing a license for a remote pharmacy.

Source:
General Authority: SDCL 36-11-11(1), 36-11-72(1).
Law Implemented: SDCL 36-11-72(1).

20:51:30:03. Ownership or control by pharmacist required. The board may not issue a permit to conduct a remote pharmacy to any pharmacist applicant unless such pharmacist applicant is an owner, or part owner, of the place of business from which the pharmacist will practice telepharmacy, or unless the non-pharmacist owner of the place of business from which the pharmacist will practice telepharmacy files an affidavit on a form prescribed by the board delegating full and complete authority to the pharmacist applicant to be in active management of the place of business for the license year ending June 30.

Source:
General Authority: SDCL 36-11-11(1), 36-11-72(1).
Law Implemented: SDCL 36-11-34, 36-11-72.

20:51:30:04. Board inspection. No remote pharmacy may provide pharmacy services until the board has inspected the remote pharmacy for minimum equipment, size, security, and sanitation standards as set forth in § 20:51:07:01 and found the remote pharmacy to be in compliance with such standards.

Source:
General Authority: SDCL 36-11-11, 36-11-72.
Law Implemented: SDCL 36-11-71, 36-11-72.

20:51:30:05. License renewal. A remote pharmacy license expires on June 30 of each year and may be renewed annually by filing an application provided by the board. The renewal fee is $200.

Source:
General Authority: SDCL 36-11-72(1).
Law Implemented: SDCL 36-11-72(1).

20:51:30:06. License required. Any pharmacy licensed by the Board may operate a remote pharmacy in South Dakota. The remote pharmacy is considered an extension of the central pharmacy. However, the remote pharmacy must have its own license as a pharmacy.

Source:
General Authority: SDCL 36-11-19(3), 36-11-72(1).
Law Implemented: SDCL 36-11-19(3), 36-11-72(1).

20:51:30:07. Audiovisual link. There must be a continuous,

two-way audiovisual link between the central pharmacy and the remote pharmacy. The transmission of information through the computer link must make information available to the central pharmacy and the remote pharmacy simultaneously. The video camera used for the certification of prescriptions must be of sufficient quality and resolution so that the certifying pharmacist can visually identify the markings on tablets and capsules. Unless the camera used to certify prescriptions can also be used to monitor activities in other parts of the remote site, a second camera is required. A security camera trained on the entire dispensing area is sufficient to meet the requirement.

Source:
General Authority: SDCL 36-11-11(1), 36-11-72(2),.
Law Implemented: SDCL 36-11-72(2).

20:51:30:08. Remote pharmacy identification sign. Each remote site shall display a sign easily viewable by customers stating "This business is a remote pharmacy, supervised by a pharmacist located at (insert name of pharmacy and address)".

Source:
General Authority: SDCL 36-11-11(1), 36-11-72(2,5).
Law Implemented: SDCL 36-11-72(2,5).

20:51:30:09. Restricted area posted. The remote pharmacy dispensing area shall be posted as a restricted area. Only pharmacy technicians or pharmacy interns employed directly and involved in processing prescriptions are permitted in the dispensing area. There must be restricted access to the restricted area. The security system at the remote pharmacy must allow for tracking of each entry into the pharmacy. The pharmacist-in-charge shall review the log of entries at least weekly.

Source:
General Authority: SDCL 36-11-11(1), 36-11-72(2,5).
Law Implemented: SDCL 36-11-72(2,5).

20:51:30:10. Toll-free telephone number. The remote pharmacy shall provide a toll-free telephone number that patients and prescribers may use to contact the central pharmacy. The telephone number shall be printed on the label of each prescription container.

Source:
General Authority: SDCL 36-11-11(1), 36-11-72(2,5).
Law Implemented: SDCL 36-11-72(2,5).

20:51:30:11. Pharmacist staffing requirements. Any pharmacist performing services in support of a remote pharmacy, whether those services are performed at the central pharmacy or the remote pharmacy, must be licensed by the board. A copy of the pharmacist's license must be posted in any remote pharmacy to which the pharmacist provides services.

Source:
General Authority: SDCL 36-11-11, 36-11-13, 36-11-72(3).
Law Implemented: SDCL 36-11-72(3).

20:51:30:12. Technician and intern staffing requirements. Each remote pharmacy must be staffed with South Dakota registered pharmacy technicians or interns. A pharmacy technician working at a remote pharmacy shall have a minimum of 2000 hours of experience as a registered pharmacy technician in accordance with § 20:51:29 and shall be certified through one of the certification programs recognized by the board. An intern working at a remote pharmacy shall have a minimum of 500 hours of experience as a registered pharmacy intern in accordance with § 20:51:02.

Source:
General Authority: SDCL 36-11-11(1,14,), 36-11-72(3).
Law Implemented: SDCL 36-11-72(3).

20:51:30:13. Pharmacist-to-technician ratio. The pharmacist on duty at a central pharmacy may supervise no more than the number of technicians allowed in accordance with §20:51:29:19. The total number of allowed technicians may be divided between the central pharmacy and the remote pharmacy in any manner. However, each remote pharmacy must have at least one pharmacy technician or pharmacy intern on duty when it is open.

Source:
General Authority: SDCL 36-11-11(1,14), 36-11-72(3).
Law Implemented: SDCL 36-11-72(3).

20:51:30:14. Prescription workload. Any central pharmacy providing telepharmacy services shall provide pharmacist staffing to meet the prescription workload of both the central pharmacy and the remote pharmacy.

Source:
General Authority: SDCL 36-11-11, 36-11-72(3).
Law Implemented: SDCL 36-11-72(3).

20:51:30:15. Requirements for prescription orders. Only a registered pharmacist may take a verbal prescription order. A pharmacy technician at the remote pharmacy may not accept verbal orders for new prescriptions, but may accept written orders. A written order for a new prescription may be entered at the central pharmacy or the remote pharmacy. The pharmacist must approve or override all drug utilization review alerts.

Source:
General Authority: SDCL 36-11-11(1), 36-11-72(5).
Law Implemented: SDCL 36-11-72(5).

20:51:30:16. Requirements for operation. The following requirements must be adhered to when operating a remote pharmacy:

1. The remote pharmacy may only be open if computer link, video link, and audio link with the central pharmacy are functioning properly. If any link is not functioning

properly, the remote pharmacy must be closed unless a pharmacist is working at the remote pharmacy;
2. No remote pharmacy may be open when the central pharmacy is closed, unless a licensed pharmacist is working at the remote pharmacy;
3. Any prescription filled at the remote pharmacy must be profiled, reviewed, and interpreted by a pharmacist at the central pharmacy before the prescription is dispensed;
4. Any remotely dispensed prescriptions must have a label properly prepared in accordance with § 20:51:05:21 attached to the final drug container before the pharmacist certifies the dispensing process. This prescription certification process must be done in real time. All prescription certification must be documented in the computer record. The computer must be capable of carrying the initials of the technician preparing the prescription and the pharmacist verifying the prescription. Verification is required for both new prescriptions and refills;
5. When the patient receives a prescription, the pharmacist must use audiovisual communication to counsel the patient regarding use of the prescription being dispensed. Counseling is required only for new prescriptions. The pharmacist must meet the counseling standards in accordance with § 20:51:25:04;
6. The remote pharmacy must maintain a log, signed by the patient, that documents a patient's refusal for counseling by the pharmacist.

Source:
General Authority: SDCL 36-11-11(1), 36-11-72(2,3,4,5).
Law Implemented: SDCL 36-11-72(2,3,4,5).

20:51:30:17. Routine quality assurance required. The pharmacist-in-charge must develop policies and procedures to ensure the safe and effective distribution of pharmaceutical products and delivery of required pharmaceutical care. Policy and procedures must be reviewed annually and be signed by both the technician at the telepharmacy and the pharmacist-in-charge at the central pharmacy.

All revisions to policies and procedures made after initial board approval shall be resubmitted to the board for approval.

The pharmacist-in-charge must adhere to the following procedures:

1. Inspect the remote pharmacy at weekly intervals or more if deemed necessary. Inspection must be documented and kept on file at the remote pharmacy and available upon request by the board;
2. Implement and conduct a quality assurance plan that provides for on-going review of dispensing errors, with appropriate action taken, if necessary, to assure patient safety;
3. Verify controlled substance prescriptions for both accuracy and legitimacy of the original prescription by the pharmacist-in-charge or a designated pharmacist during weekly inspection visits;
4. Maintain records of all controlled substances stocked by the remote pharmacy through a daily perpetual inventory. Controlled substance perpetual inventory records must be available for inspection by the board's inspectors. A remote pharmacy stocking controlled drugs must be registered by the Drug Enforcement Administration and South Dakota Department of Health;
5. Conduct an inventory of all controlled substances at least monthly to verify accuracy.

Source:
General Authority: SDCL 36-11-11(1) and 36-11-72(4,5).
Law Implemented: SDCL 36-11-72(4,5).

20:51:30:18. Use of automated mechanical dispensing device. If the remote pharmacy uses an automated mechanical dispensing device, the stocking and loading of this device must either be checked by a pharmacist, prior to use, or employ a secure bar coding system or its equivalent. Policies and procedures consistent with § 20:51:17:02 regarding the operation of the automated mechanical distribution system must be developed and submitted to the board for consideration. After approval, these policies and procedures must be available at both the central pharmacy and the remote pharmacy.

Source:
General Authority: SDCL 36-11-11(1,6), 36-11-72(6).
Law Implemented: SDCL 36-11-11(6), 36-11-72(6).

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

South Dakota State University
College of Pharmacy

Dennis Hedge
Acting Dean

We have started a busy and exciting school year at the College of Pharmacy. Within the first two weeks of the Fall Semester, we welcomed a new class of 70 students to the College with P1 Orientation, began classes in our "new" temporary home, had our ACPE on-site evaluation visit, and had a meeting of the College of Pharmacy Advisory Council. As we move ahead this semester, our attention will focus on the dean search and other programming areas that impact the College.

Our transitional space in the intramural building is working for us. In addition to the office suites and conference room, the classrooms on the east end of the Intramural Building were upgraded with new furnishings, smart classroom technology, and a new heating and cooling system. A dedicated resource room with computers, references, and other materials is also available to our students and is located between our primary classrooms. The gym floor and basketball goals still remain in the facility, and it has been fun to watch our students take advantage of that between classes. In truth, it has created a nice environment for students to gather and interact.

In the next few weeks, the College of Pharmacy will launch an experiential management software system that greatly enhances its ability to track and document student progression and outcomes during experiential courses. The experiential management system will allow clinical faculty and pharmacist preceptors to better envision the capabilities and needs of individual students. This will provide clinical faculty and preceptors an opportunity to create specific experiences that better address educational needs of each student. Students will also be asked to maintain an electronic portfolio on the system that documents their progress on competencies related to the experiential component of the Pharm.D. curriculum.

The College of Pharmacy is also eager to continue to expand its partnership with the Student Health Pharmacy that has been relocated to the new Wellness Center on the SDSU campus. Each first-year pharmacy student will again spend time in the pharmacy working with patients, providing a tie-in to theories covered in the classroom. The location of the new pharmacy will provide improved access and added visibility, creating new partnership opportunities between the College of Pharmacy and Student Health. At this time, plans are being developed which will give pharmacy students an opportunity to work collaboratively with the Student Health Pharmacy in providing medication education sessions for the campus community.

This year also marks the second year of the Ph.D. degree in Pharmaceutical Sciences program. Program enrollment has now reached fourteen, with two students expected to graduate with the Ph.D. in Pharmaceutical Sciences degree this year. Coinciding with growth of the program, two additional faculty members, Dr. Gudiseva Chandrasekher and Dr. Hemachand Tummala, recently joined the Department of Pharmaceutical Sciences. Both will teach graduate and undergraduate courses, and serve as mentors for our students.

Finally, the search process for a new permanent dean for the College of Pharmacy is progressing nicely. During the month of October, candidates will be on campus interviewing for the position. Dr. Roberta Olson, dean of the College of Nursing, is chairing the search committee.

continuing education for pharmacists

Volume XXVI, No. 7

Autism and Its Treatment: A Primer for Pharmacists

Thomas A. Gossel, R.Ph., Ph.D., Professor Emeritus, Ohio Northern University, Ada, Ohio and
J. Richard Wuest, R.Ph., PharmD, Professor Emeritus, University of Cincinnati, Cincinnati, Ohio

Goal. The goal of this lesson is to explain autism with focus on its pathogenesis, clinical characteristics and confirmation, and treatment.

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

1. recognize historical events concerning autism, and differentiate each component of the autism spectrum disorders from one another;
2. select important principles that characterize autism and the principles that govern its clinical confirmation and management; and
3. identify specific nonpharmacologic and pharmacologic measures that are reported to modify signs and symptoms of autism.

Autism (autistic disorder) is a complex, chronic and serious neurodevelopmental disorder that affects normal functioning of the brain, impacting development in the areas of social interaction and communication skills. The most common of the pervasive developmental disorders, autism affects an estimated one in 150 births in the United States. With the number growing at a startling rate of 10 to 17 percent per year, its prevalence could reach four million Americans within a decade. Occurring in all racial, ethnic and socioeconomic groups, autism is four times more likely to occur in males than in females. Additional information on autism can be found in the online resources listed in Table 1.

Gossel

Wuest

Background

In 1943, child psychiatrist Leo Kanner of the Johns Hopkins Hospital published the first description of "autistic disturbances of affective contact." Kanner thus introduced the term *infantile autism*, or *autism* into the English language, which defined three symptom patterns: (1) abnormal development of social reciprocity; (2) failure to use language for communication; and (3) desire for sameness, as seen in repetitive rituals or intense circumscribed interests – symptoms that were later termed *Kanner's triad*.

About this same time, Austrian pediatrician Hans Asperger, based on his study of 400 children, described a milder form of the disorder that became known as *Asperger's Disorder* (*Asperger Syndrome*).

Autism is listed in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR), the primary diagnostic reference for mental health professionals in the United States. It is one of the five pervasive developmental disorders (PDDs), more commonly referred to as autism spectrum disorders (ASDs). Each disorder is characterized by varying degrees of impairment in social interactions, communication skills and restricted, repetitive and stereotyped patterns of behavior. (Table 2) It is not uncommon for more than one of these disorders to coexist in the same family.

Table 1
Representative sources for information on autism

The American Academy of Pediatrics	www.aap.org
The Autism Society of America	www.autism-society.org
Autism Speaks, Inc.	www.autismspeaks.org
First Signs, Inc.	www.firstsigns.org
The Organization for Autism Research	www.researchautism.org
National Library of Medicine and the National Institutes of Health	www.nlm.nih.gov/medlineplus/print/autism.html
National Institute of Mental Health	www.nimh.nih.gov
National Institute of Child Health and Human Development	www.nichd.nih.gov

Table 2
Major characteristics of pervasive developmental disorders

Disorder	Age at onset (months)	Major characteristics
AD	<36	social and communication skills impairment; stereotyped, repetitive/restrictive behavior and interests
PDD-NOS	variable	symptoms not meeting other diagnoses; frequently a milder form of autism; also known as atypical autism
Asperger's disorder	>36	impaired social interactions and restricted interests; delay in motor skills; preservation of early language skills; limited conversational abilities
CDD	>24	normal early development followed by deterioration in social skills, language, behavior, bowel/bladder control and play
Rett syndrome	5-30	progressive developmental disorder with normal early infancy, followed by loss of fine and gross motor skills, language skills, interests, and social interactions; appearance of characteristic hand-wringing movement and muscle-wasting

AD = autistic disorder; PDD-NOS = pervasive developmental disorder-not otherwise specified; CDD = childhood disintegrative disorder

*Adapted from Stachnik JM, Nunn-Thompson C. Ann Pharmacother. 2007.41;626-*634

Pathogenesis

Although there is no known single cause for autism, it is generally accepted that it follows some abnormality in brain structure or function. Brain scans reveal differences in the shape and structure of the brain in children with autism compared to those without.

Research is ongoing in investigating possible links between heredity, genetics and medical pathology. There appears to be a pattern of autism or related neurological disabilities in many families.

Medical researchers have identified a variation in a gene that may increase the risk for developing autism, especially when the variant is inherited from mothers rather than fathers. The gene, CNTNAP2, encodes a protein that facilitates communication between brain cells through chemical signals and appears to play a role in brain cell development. Inheriting the gene variant does not imply that a child will inevitably develop autism; rather, it means that a child may be more vulnerable to developing the disease.

Other research suggests that a cluster of unstable genes may interfere with normal brain development, resulting in autism. Pregnancy or delivery problems and environmental factors (e.g., viral infections, metabolic imbalances and exposure to environmental chemicals during pregnancy) are also being studied.

Is there a causative role for vaccines? Many studies over the years have looked at the possibility that vaccines are a cause of autism. Autistic characteristics have been described in some children within a few weeks of receiving a vaccine. Until 1999, vaccines intended for infants to protect them against diphtheria, tetanus, pertussis, *Haemophilus influenzae* type b (Hib), and hepatitis B contained thimerosal (a mercury-based preservative). Today, with exception of some influenza vaccines, none of the preparations used in the United States to protect preschool-aged children against 12 infectious diseases contain thimerosal. The MMR (measles, mumps, rubella) vaccine, varicella (chickenpox), inactivated polio, and pneumococcal conjugate vaccines do not and never did contain thimerosal.

The U.S. Institute of Medicine (IOM) conducted a thorough review on the issue of identifying a possible link between thimerosal and autism. The IOM report, released in May 2004, stated that there was no link. At this time, there is no conclusive scientific evidence that any component of a vaccine or combination of vaccines causes autism.

Characteristics

Characteristics (i.e., signs/symptoms) of autism may be evident as early as four months of age. In a few cases, after developing normally, a child regresses into autism. Clinically, neurological abnormalities usually dominate the symptomatology. At the same time, it is emphatically true that intelligence diversity is a major aspect of autism. It has been reported that while approximately three-fourths of patients with autism may be mentally retarded, the IQs of persons with autism may range from severe impairment to intellectually gifted.

Impaired social interaction is the hallmark feature of autism. Table 3 lists common characteristics.

Parents are usually the first to notice symptoms of autism. Early in infancy, a baby with autism may be unresponsive to people or focus intently on one item to the exclusion of others for long periods of time. A child with autism may appear to develop normally for a period, only to withdraw and become indifferent to social interaction.

They may fail to respond to their name and often avoid eye contact with other people. They have difficulty interpreting what others are feeling because they don't understand social cues, such as tone of voice or facial expressions, and they don't watch other people's faces for clues about appropri-

ate behavior. They lack empathy toward others.

Many children with autism engage in repetitive movements such as rocking their head or torso and twirling their hair between fingers, or in self-abusive behavior such as biting or head-banging. They also tend to start vocalizing later than children without autism. Some speak in a high-pitched, or flat, robot-like voice, or in "sing-song" fashion (regular or monotonous rising and falling intonation) about a narrow range of favorite topics.

Many children with autism have an increased threshold to pain, but are abnormally sensitive to sound, touch, or other sensory stimulation. These reactions may contribute to behavioral symptoms such as resistance to being cuddled or hugged.

Children with autism appear to be at higher risk for certain comorbid (concomitant but unrelated) conditions, including fragile X syndrome (the most common inherited form of mental retardation) and tuberous sclerosis (a rare, genetic disorder that causes benign tumor growth in the brain and other vital organs), as well as epileptic seizures, Tourette syndrome (characterized by presence of multiple physical [motor] tics and at least one vocal [phonic] tic), learning disabilities, and attention deficit disorder. For reasons that remain unclear, about one-third of children with autism develop epilepsy by the time they reach adulthood. While persons with schizophrenia may show autistic-like behavior, symptoms usually do not appear until their late teens or early adulthood. Most persons with schizophrenia also experience hallucinations and delusions, neither of which are associated with autism.

Autism symptoms often improve with treatment and with age. Some autistic children can lead normal or near-normal lives as they grow older. Children whose language skills regress early in life, usually before three years of age, appear to be at risk of developing epilepsy or seizure-like brain activity. Some children with autism may become depressed or experience behavioral problems during adolescence.

Persons with autism score consistently low on instruments that measure life skills. The life outcomes of autistic adults range from complete dependence on others to (rarely) successful employment. People with autism typically die early, with death most often coming from seizures, nervous system dysfunction, drowning or suffocation (at a rate exceeding three times the general population). As mentioned earlier, epilepsy occurs in at least one-third of persons with autism. The death rate due to epilepsy is approximately 24 times higher than that of epileptic patients without autism.

Confirmation of Autism

There is no medical test for autism. Physicians rely on a core group of behaviors to diagnose autism:

- difficulty in making friends with peers;
- inability to initiate or sustain conversation with others;
- impairment or absence of imaginative and social interaction;
- unusual, stereotyped or repetitive use of language;
- patterns of interest that are abnormal in intensity or focus;
- preoccupation with a particular object or subject; and
- rigid adherence to established routines or rituals.

While some screening instruments rely solely on parental (or caregiver's) observations, others rely on a combination of notes from both parent and physician. Since autism is a complex disorder, a comprehensive evaluation requires a multidisciplinary team including a neurologist, psychiatrist, psychologist, speech therapist and other professionals who have experience in diagnosing children with ASDs. Team members will conduct a thorough neurological assessment and in-depth cognitive and language testing.

Autism can often be detected as early as 18 months. Increases in the number of autism cases in the United States may be the result of improved diagnosis and changes in diagnostic criteria.

Differential Diagnosis. Children with some symptoms suggestive of autism, but neither qualitatively nor quantitatively sufficient to permit a diagnosis of classical autism, may be diagnosed with pervasive developmental disorder-not otherwise specified (PDD-NOS) (Table 2). Children with autistic behaviors whose language skills are well developed may be diagnosed with Asperger's disorder. Children who develop normally, and then suddenly deteriorate between three and 10 years of age and show marked autistic behaviors, may be diagnosed with childhood disintegrative disorder (CDD). Girls with autistic symptoms may be suffering from Rett syndrome, a gender-linked genetic disorder characterized by social withdrawal,

Table 3
Common characteristics of persons with autism

A child or adult with autism might:
- not play "pretend" games
- not look at objects when another person points at them
- not have an interest in others
- avoid eye contact
- want to be alone
- have trouble understanding other people's feelings or talking about their own feelings
- prefer not to be held or cuddled
- appear to be unaware when other people talk to them but respond to other sounds
- be very interested in people, but not know how to relate to them
- repeat or echo words or phrases
- have trouble expressing their needs using words or motions
- repeat actions over and over
- have trouble adapting to a changing routine
- have unusual reactions to the way things smell, taste, look, feel or sound
- lose skills they once mastered

Adapted from www.cdc.gov/ncbddd/autism/actearly/autism.html

regressed language skills and hand wringing.

Treatment

Although treatment has improved greatly over the past several decades, there is neither a cure for autism nor single approach to therapy. The primary goals are to minimize the core features and associated deficits, maximize functional independence and quality of life, and alleviate family distress. Options may include behavioral and communication measures, drug therapies and complementary approaches.

Behavioral and Communication Measures. Numerous programs target the range of behavioral, social and language difficulties characteristic of autism. Some focus on reducing problem behaviors and teaching new skills. Others focus on teaching children how to communicate more effectively with other people or how to act appropriately in social situations.

Drug Therapies. At present, there is no medication that directly improves the core signs of autism. However, some can help control individual symptoms. Agents most commonly employed in autism include antidepressants (especially SSRIs), used in 20 to 25 percent of patients; neuroleptics (especially second-generation antipsychotics), 10 to 15 percent; stimulants, 10 to 15 percent; alpha agonists, 10 percent; and anticonvulsants, 5 to 10 percent.

Risperidone. The FDA approved risperidone (Risperdal) for the symptomatic treatment of irritability in autistic children and adolescents. The targeted behaviors under the general heading of irritability include aggression, deliberate self-injury, temper tantrums and quickly changing moods. No restrictions on prescribing or use in autism have been put into place to-date.

Risperidone's effectiveness in the symptomatic treatment of irritability associated with pediatric autistic disorders was established in two eight-week placebo-controlled trials in 156 patients aged five to 16 years of age. Outcomes demonstrated that children on risperidone achieved significantly improved scores for specific behavioral symptoms of autism compared to children on placebo. The most common side effects included drowsiness, constipation, fatigue and weight gain.

While efficacy has been demonstrated, concern remains about the misuse potential of risperidone and other antipsychotic drugs as a form of long-term chemical sedation, particularly with the most intellectually disabled children who may be the most likely to experience adverse drug effects. The overwhelming view, however, is that if antipsychotic drugs are used appropriately, they can have a positive role in the management of aggression associated with autism.

Complementary Approaches. In the absence of specific medical interventions for autism, parents and some healthcare professionals may choose complementary (i.e., alternative) therapies, such as art or music therapy; dietary restrictions including the elimination of gluten, sugar, chocolate, preservatives and food coloring; vitamin and mineral supplements; herbal remedies; or sensory integration, which focuses on reducing a child's hypersensitivity to touch or sound. Almost one-third of autistic children regularly receive a complementary therapy. Various surveys indicate that only 36 to 62 percent of caregivers who treated their autistic children with complementary therapies had informed the child's primary care physician.

Parents and caregivers should be encouraged to seek additional information when they encounter claims such as:

- treatments based on overly simplified scientific theories, and those supported primarily by case reports or anecdotal data rather than carefully designed studies;
- therapies claimed to be effective for multiple different, unrelated conditions or symptoms;
- claims that children will respond dramatically and some will be cured; and
- treatments that are said to have no potential or reported adverse effects.

Early Treatment. Individuals with autism won't outgrow it, but they can learn to function within the confines of the disorder, especially if treatment begins early. Early intervention is defined as treatment provided to children from birth to age three years. Research has clearly shown that early treatment, which consists of intensive, individualized behavioral interventions, can have a dramatic impact on reducing the symptoms of autism. Sadly, it is estimated that only 50 percent of autistic children are diagnosed before kindergarten.

Summary and Conclusions

Autism is a lifelong neurobiologic disorder that adversely affects quality of life. Early diagnosis of autism is often elusive. Its imprint on afflicted young people is so unique that the course of the disorder is difficult to predict in individual patients. In view of anticipated patterns of earlier identification and more proactive treatment of autism in years to come, the burden of autism on the health care system will continue to increase.

The content of this lesson was developed by the Ohio Pharmacists Foundation, UPN: 129-000-08-007-H01-P. Participants should not seek credit for duplicate content.

Continuing Education Quiz

"Autism and Its Treatment: A Primer for Pharmacists"

1. In the U.S., autism affects an estimated one in:
   a. 150 births. c. 15,000 births.
   b. 1500 births. d. 150,000 births.

2. The term autism has been defined as all of the following symptom patterns EXCEPT:
   a. abnormal development of social reciprocity.
   b. failure to use language for communication.
   c. desire for sameness.
   d. inability to perform mathematical tasks.

3. According to the Table listing Major characteristics of pervasive developmental disorders, autistic disorder has an onset of:
   a. <12 months of age.
   b. <24 months of age.
   c. <36 months of age.
   d. <48 months of age.

4. The U.S. Institute of Medicine has stated that:
   a. there is a link between thimerosal and autism.
   b. there is no link between thimerosal and autism.

5. It has been reported that approximately three-fourths of patients with autism may be:
   a. intellectually gifted.
   b. mentally retarded.

6. By the time they reach adulthood, about one-third of children with autism develop:
   a. schizophrenia. c. epilepsy.
   b. hallucinations. d. delusions.

7. All of the following are included in the core group of behaviors physicians use to diagnose autism EXCEPT:
   a. difficulty feeding and dressing oneself.
   b. inability to sustain conversation with others.
   c. preoccupation with a particular object.
   d. rigid adherence to established routines.

8. Girls with some autistic symptoms who also exhibit social withdrawal, regressed language skills, and hand wringing are most likely suffering from:
   a. Asperger's disorder.
   b. childhood disintegrative disorder.
   c. pervasive developmental disorder not otherwise specified.
   d. Rett syndrome.

9. The most common therapeutic agents employed to treat autism are the:
   a. neuroleptics. c. stimulants.
   b. anticonvulsants. d. antidepressants.

10. Common characteristics of persons with autism include all of the following EXCEPT:
    a. avoiding eye contact.
    b. begging to be held or cuddled.
    c. having trouble adapting to a changing routine.
    d. repeating actions over and over.

Course Expires on: September 28, 2011.
Target audience: Pharmacists and Technicians

The South Dakota State University College of Pharmacy is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. The Universal Program Identification numbers for this program are: #063-999-08-029-H01-P, #063-999-08-029-H01-T

Course Expires on: September 28, 2011.

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

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

Learning Objectives - Pharmacists: 1. recognize historical events concerning autism, and differentiate each component of the autism spectrum disorders from one another; 2. select important principles characterizing autism and the principles that govern its clinical confirmation and management 3. Identify specific nonpharmacologic and pharmacologic measures that are reported to modify signs and symptoms of autism.

Learning Objectives – Technicians: 1. Identify the incidence and growth rates of autism; 2. Describe the most common age of onset for autism; 3.Describe the most common features exhibited in autism; 4. Identify the medications most often employed in the management of autism.

"Autism and Its Treatment: A Primer for Pharmacists"

Circle the correct answer below:

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

Course Evaluation - *must be completed for credit.*

	1 Disagree			-			***7 Agree***
Material was well organized and clear:	1	2	3	4	5	6	7
Content sufficiently covered the topic:	1	2	3	4	5	6	7
The learning objectives were satisfied:	1	2	3	4	5	6	7

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OBITUARIES

Gene Hansen of Winner, SD

Gene Hansen, 71 of Winner, SD, who owned and operated Hansen Community Drug in Winner until 2005 passed away Saturday, August 30, 2008 at the Winner Regional Healthcare Center in Winner.

Gene was born September 12, 1936 in Philip, SD where he attended grade school and high school. He graduated from SDSU with a pharmacy degree and worked at pharmacies in Mitchell and Minneapolis before moving to Winner and purchasing the Rexall Drug Store in 1967.

Gene was an avid fisherman and hunter who enjoyed fishing with local friends and traveled to many areas, including Alaska. After retiring from the pharmacy, he opened a sporting goods store. He was always happy to promote the excellent hunting found in the Winner area to locals and out-of-towners. He was a staunch supporter of Pheasants Forever and Ducks Unlimited. He also enjoyed gardening and sharing it with his family and friends.

Grateful for having shared his life are his wife Sandy; mother Marie Hansen of Philip, SD; sons Douglas Hansen of Clearwater, FL and Michael (Jenny) Kosters of Ft. Lauderdale, FL; daughters Terri Moser of Newman, GA, and Teresa (Roland) Budd of Tarpon Springs, FL; sisters Arlis (Bob) Neville, Shirley Raue, Paula (Billy) Poss, and Charlene (Sonny) Reed; brothers Jack (Donna) Hansen, Darryl (Kay) Hansen, and Bob (Lavonne) Hansen; grandchildren, Ryan, Carly, Samantha, Valerie and Max; sister-in-laws Dorothy Fritz, Ellie Swanson, Joanne Arends, and Janet Bruns, and many nieces and nephew.

He was preceded in death by his father Wallace and one brother Richard.

Funeral services were held on Thursday, September 4, 2008 at 11:00 AM at the First Christian Church in Winner.

CLASSIFIEDS

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