Ohio Nurse

The Official Publication of the Ohio Nurses Foundation for Nursing

ONF OHIO NURSES FOUNDATION

Volume 1, Number 3 June 2008

Are You Competent?

by Pamela S. Dickerson, PhD, RN-BC - Chair, Ohio Nurses Foundation CE Council

If you are currently practicing nursing, you are expected to be competent in your area of practice. The Ohio Board of Nursing (the Board) has rules related to competent practice, and nurses can be disciplined by the Board if their practice does not uphold standards of competence. Nationwide, the National Council of State Boards of Nursing is addressing the issue of competency assessment for relicensure.

The Institute of Medicine has released numerous reports over the past several years addressing the issue of patient safety in the United States healthcare environment. One recurrent theme in many of the reports is the vital role of the nurse in protecting and promoting patient safety. In order to carry out that function, the nurse must be competent in his/her role.

The Code of Ethics for nurses from the American Nurses Association also addresses the issue of competence. Nurses are expected to remain current in their practice, to practice according to prevailing standards, and to continually learn and grow.

But what does "competence" mean, and how do you know if you've met that standard? Are you competent if you practice according to what you learned in your basic educational program preparing you to become a nurse? If you graduated more than a year or two ago, your educational foundation is probably too "old" for you to be competent if you haven't continued to update your knowledge and skills.

Are you competent if you practice according to your facility's policies and procedures? If your policies and procedures have not been updated to reflect the most recent standards of practice for your particular area, maybe not. Consider investigating the basis for existing policies and procedures and learn how they are updated. Better yet, offer to participate in the review and revision process.

Are you competent if you can "pass" your organization's mandatory educational and/or demonstration examinations each year? Perhaps this process allows you to demonstrate that you are *proficient* in performance of the skill under laboratory or simulation conditions, but it typically does not require evidence of critical thinking and the scientific foundation for practice that guides decision-making when the skill is applied in practice.

The entire February 2008 issue of the *Journal of Continuing Education in Nursing* is devoted to exploring the issue of competency in nursing practice. While there is no clear consensus definition from the literature, there is some agreement that "competence" needs to be reflective of scientific knowledge, cognitive and technical skill, awareness of legal/licensure and scope of practice regulations, critical thinking, and intuitive aptitude.

A further dimension of competence is reflected in the uniqueness with which a nurse provides care to each individual patient. Competent practice involves recognition of and respect for each patient's cultural and spiritual values; family and interpersonal dynamics; and lifestyle adaptations to maintain health, deal with a disease condition, and/or plan for approaching death.

Defining competence in nursing practice is complicated by the wide variety of practice settings in which nurses function. Competence in occupational health nursing is different than competence in school nursing is different than competence in emergency department nursing is different than… you get the picture!

Assistance is available in a variety of ways. The American Nurses Association publishes "scope and standards" documents for a variety of areas of nursing practice. Specialty nursing organizations publish standards of practice relative to the type of nursing practice they serve. The Accreditation Program of the American Nurses Credentialing Center has just launched a national program to accredit educational programs designed specifically to validate nursing competency. Precepting, internship, and/or mentoring programs within healthcare facilities offer opportunities for professional growth and development under tutelage of experienced colleagues. Continuing education seminars, conferences, webinars, and other learning opportunities allow you to glean new information from faculty and peers as well as reflect on your own ability to apply new knowledge in your specific practice setting.

Ultimately, it is *your* accountability to determine what knowledge, skills, and aptitudes are required for your practice area, to continually update those abilities, and to validate for patients, employers, and, if necessary, your regulatory board, that you are indeed competent to practice. Continue to read, learn, and network with colleagues so you can truly be a competent provider of nursing care.

President's Message
Nursing 2015: Transforming the Future of Nursing in Ohio

Gingy Harshey-Meade

In an unprecedented collaboration, members of the Ohio Nurses Association (ONA), the Ohio Hospital Association (OHA) and the Ohio Organization for Nurse Executives (OONE) have been bringing their experience and intellect together toward one important goal—to recommend strategic directions, objectives, and tactics that will enhance the profession of nursing in Ohio.

Ohio faces serious health care challenges that will require additional care, and a growing number of nursing vacancies is predicted to result in a 19% shortage of nurses in the state by 2015. Without intervention now to improve the work environment for nurses, change the way care is delivered, and transform nursing education and leadership capacities, the health care delivery system will struggle to provide high quality and safe health care to the residents of Ohio.

The Nursing 2015 collaborative includes OHA, OONE and ONA. OHA currently represents approximately 170 hospitals and 40 health systems throughout Ohio. OHA also has more than 1,900 personal members of 11 affiliated societies, one of which is OONE, a professional organization for nurse executives and managers. ONA is a membership organization that represents over 8,500 registered nurses and has been promoting and protecting nurses, the nursing profession and those who receive nursing care for over 100 years.

Nursing 2015 promotes the improvement of the nursing profession by ensuring that

- Professional nurses are self-directed, accountable, and control their environment.
- Nurses are professionally empowered to influence the delivery of high quality care that promotes positive patient outcomes through nursing leadership, coordination, and collaboration.

NURSING2015
Ohio Hospital Association • Ohio Nurses Association • Ohio Organization for Nurse Executives

- Nurses are adequate in number, diverse, highly educated, and valued as clinical leaders across the continuum.
- The profession of nursing is respected and valued.
- The practice environment is attractive, supportive of work life balance, flexible, and incorporates state-of-the-art technology.
- Compensation and benefits are reflective of nurses' contributions to the delivery of care.

Guiding Principles of Nursing 2015

1. All stakeholders are "at the table" and actively participating.
2. Frontline providers are involved and their voices heard.
3. The need for cultural changes is a key element in creating the future and is not overlooked or underestimated.

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Inside This Issue

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Profile of an Ohio Nurse: "I Was Born to be a Nurse!"

by Mary Yost, RN, CNIII

Whoever said, "Life is a journey, not a destination" was right when it comes to nursing!

In 40 years as a nurse, I have worked full time over all three shifts and most recently have enjoyed 12-hour shifts. A wide variety of hours and schedules help me to meet home front obligations and priorities. I started out working two of three weekends and now work one of three weekends. My career as a nurse at the bedside has included: Surgical/Medical/Recovery ICU; Adult Burn Unit and NeoNatal ICU in a level III NICU. My experience as a manger (Head Nurse) also varied from Medical ICU, Burn Unit, Cardiac ICU; Telemetry Cardiac Step-down and Open Heart ICU. My management journey included several years as a shift supervisor for the hospital at two different locations. I have been given the opportunity to participate as an instructor in staff education with a focus on "Team Building," "Conflict Management," "Communication Skills," and "Patient Satisfaction"… to mention but a few key topics.

To make the most of the nursing journey we need to be open to new experiences and ever challenging opportunities, such as "Family Centered Care," "Magnet Status," "Clinical Ladder" growth, self governing unit councils; all of which are available in every hospital to enhance, nurture and create a long-lasting, ever-changing patient care program. Many doors throughout a nursing career are waiting to be opened and personally, I have learned something new, exciting or challenging every day.

"Oh!" The people I have met at every turn and every corner; whether patient families, colleagues or other health team professionals have enriched my life or at least made me stop and think about better ways to approach certain situations.

Nursing is such a blessed experience that it is a mystery to me why we have a shortage. Granted, we all have had some really bad days, weeks, and years which would push us in the direction of change. However, there is always another door to open, either within the same hospital or in a different institution. I went from a management position for many years to the NICU as a staff nurse six years ago. The move was frightening due to the unknown nature of the challenges ahead, and I was uncertain if I had made the right choice at my age. But with a wonderful team and a great variety of mentors, I am now a CN III; chair of the Unit Council, participate in policy review, and am active in new staff and student orientation. What a wonderful and fulfilling experience it has been to be the "grandmother" of the unit.

Getting recognition is something most of us do not overtly seek, but if at the end of the day/week/year we are able to say, "We know we did our best and we really were able to make a difference," then what an outstanding legacy as a nurse we have created. Over the years I have had the privilege of being recognized as a "Hospital Hero" and a recipient of the Nationally Recognized Daisy Award. I feel honored, but it pales in comparison to the internal reward of caring for a witnessing the recovery of my patients.

I am sharing these thoughts at the end of my active nursing journey so that I can encourage others to become rich in knowledge, nurturing of others, valued for giving of their skills and full of life's blessings. I must say I was "Born to be a Nurse." I never lost sight of the fact that I was a wife first (married now 40 years) a mother second (to three wonderful children) a grandmother (of seven) and finally a Nurse. I love nursing. I am who I am, in large part, due to my nursing experiences and have enjoyed every minute of the journey. It is up to each individual to choose the path of fulfillment that meets their needs, but let's celebrate the career of nursing as a never-ending journey with endless opportunities. Let's celebrate the career of Nursing and its life giving potential!

OHIO NURSE

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Web site: www.ohnurses.org

Articles appearing in the *Ohio Nurse* are presented for the informational purposes only and are not intended as legal advice and should not be used in lieu of such advice. For specific legal advice, readers should contact their legal counsel.

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If you need additional information or have questions, please contact Shannon Richmond, Director of Communication at (614) 448-1029.

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APPLICATION FOR MEMBERSHIP

Member of the American Nurses Association

Last Name | First Name | MI | Degrees | Social Security Number

Street Address | City, State and Zip | County

(____) Home Phone | (____) Cell Phone | Home Email

(____) Work Phone | (____) Work Fax | Work Email

Employer | US Citizen? (__)Yes (__)No

RN License Number | License State | Basic School of Nursing | Grad. Mo/Yr (basic program)

SELECT MEMBERSHIP CATEGORY

See other side for membership rates

Full Rate
(__) Employed full or part-time

75% Full Rate
(__) Second year of membership for new graduates who joined within 12 months of graduating from basic nursing program

50% Reduced Rate
(__) Not employed
(__) First year of membership for new graduates from basic nursing education program who join within 12 months of graduating
(__) Full-time student (please provide documentation)
(__) 62 or over and earning less than $12,000 annually

25% Special Rate
(__) 62 or over and not employed
(__)Totally disabled

SELECT PAYMENT PLAN

$10.00 fee for returned checks

(__) Annual Payment – Enclose check payable to Ohio Nurses Association or charge to your credit card.

Visa / MasterCard / American Express / Discover | Exp Date __/__ | Signature

(__) Electronic Dues Payment Plan (EDPP) – Monthly payments will be deducted from your checking account. Sign authorization below and enclose check payable to Ohio Nurses Association for the first month's EDPP payment.

AUTHORIZATION to provide monthly electronic payments to Ohio Nurses Association (ONA): This is to authorize ONA to withdraw monthly dues payments on or after the 15th day of each month from my checking account designated by the enclosed check for the first month's payment. I understand this amount includes a monthly service fee of 33 cents. ONA is authorized to change the amount by giving the undersigned thirty (30) days notice. The undersigned may cancel this authorization upon receipt by ONA of written notification of termination twenty (20) days prior to the deduction date as designated above. ONA will charge a $5.00 fee for any returned drafts.

Signature for EDPP Authorization_____

(__) Payroll Deduction – Available only at facilities where there is an agreement between the employer and ONA. If you are not sure, contact your payroll department or ONA. A payroll deduction authorization form must be signed before deductions can begin. Contact ONA for the deduction amount.

Mail to: ONA Dues Processing Department, P.O. Box 14845, Columbus, Ohio 43214-0845

One dollar ($1.00) per month of your dues goes to an account set up to support ONA's political efforts. You may choose at anytime to opt out of this dues designation. If you are interested in opting out, please contact the Director of Health Policy at 614/237-5414.

ONA Dues are not deductible as a charitable contribution for federal income tax, but can be partially deductible as a business expense. A percent of the dues not deductible is calculated each year based on the amount spent lobbying. When preparing your taxes, contact ONA for the percentage that is deductible in the year you make this payment.

TO BE COMPLETED BY ONA: Date_____ District_____ Mtype_____ Emp_____ Chk#_____ Amount _____

Ohio Nurses Association Membership Assessments and Dues Rates

RATES EFFECTIVE 01/01/2008

Check below to determine your district. ONA Bylaws state that you must live or work in your district. Indicate choice if you live in one district and work in another.

District Name and Counties

01 Ashtabula County: Ashtabula
06 Defiance-Williams: Defiance, Williams
03 District Three: Columbiana, Mahoning, Trumbull
10 District Ten: Butler, Darke, Greene, Mercer, Miami, Montgomery, Preble, Shelby
07 Erie-Huron: Erie, Huron
16 Greater Cleveland: Cuyahoga, Geauga
23 Hi-Point Tecumseh Trail: Champaign, Clark, Logan
17 Jefferson-Harrison-Tuscarawas: Harrison, Jefferson, Tuscarawas
18 Knox-Licking: Knox, Licking
19 Lake County: Lake
24 Lorain County: Lorain
12 Mid-Ohio: Delaware, Fairfield, Fayette, Franklin, Madison, Pickaway, Union
05 Mohican: Ashland, Crawford, Marion, Morrow, Richland
28 Muskingum Valley: Coshocton, Guernsey, Morgan, Muskingum, Noble, Perry
35 Northwest Ohio: Fulton, Henry, Lucas, Ottawa, Sandusky, Seneca, Wood
30 Ross County: Highland, Jackson, Ross, Vinton
14 Southern Hills: Athens, Gallia, Hocking, Meigs
15 Southern Ohio: Adams, Lawrence, Pike, Scioto
08 Southwestern Ohio: Brown, Clermont, Clinton, Hamilton, Warren
33 Stark Carroll: Carroll, Stark
34 Summit and Portage: Portage, Summit
37 Washington County & Eastern Valley: Belmont, Monroe, Washington
22 Wayne-Holmes-Medina: Holmes, Medina, Wayne
13 West Central Ohio: Allen, Auglaize, Hancock, Hardin, Paulding

Use this dues table if you ARE NOT an ONA COLLECTIVE BARGAINING MEMBER (ONA Non-Union Member)

Non-collective bargaining membership assessments and dues include the annual American Nurses Association (ANA) fee of $134.00, Ohio Nurses Association (ONA) fee of $250.00 and district fee.

Non-Collective Bargaining Members	Full Rate		75% Reduce Rate		50% Reduce Rate		25% Special Rate	
District Number	Annual	EDPP	Annual	EDPP	Annual	EDPP	Annual	EDPP
01	399.00	33.58	299.25	25.27	199.50	16.96	99.75	8.64
03	542.44	45.53	406.83	34.23	271.22	22.93	135.61	11.63
05	390.50	32.87	292.88	24.74	195.25	16.60	97.63	8.47
06, 07, 15, 17, 18, 19, 22, 24	394.00	33.16	295.50	24.96	197.00	16.75	98.50	8.54
08	414.00	34.83	310.50	26.21	207.00	17.58	103.50	8.96
10	436.50	36.71	327.38	27.61	218.25	18.52	109.13	9.42
12	434.00	36.50	325.00	27.46	217.00	18.41	108.50	9.37
13, 14	397.00	33.41	297.75	25.14	198.50	16.87	99.25	8.60
16	448.00	37.66	336.00	28.33	224.00	19.00	112.00	9.66
23, 28	390.00	32.83	292.50	24.71	195.00	16.58	97.50	8.46
30	395.00	33.25	296.25	25.02	197.50	16.79	98.75	8.56
33	438.50	36.87	328.88	27.74	219.25	18.60	109.63	9.47
34	442.00	37.16	331.50	27.96	221.00	18.75	110.50	9.54
35	429.00	36.08	321.75	27.14	214.50	18.21	107.25	9.27
37	387.00	32.58	290.25	24.52	193.50	16.46	96.75	8.39

Use this dues table if you ARE an ONA COLLECTIVE BARGAINING UNION MEMBER (ONA Union Member)

Collective bargaining membership assessments and dues include the annual American Nurses Association (ANA) fee of $134.00, Ohio Nurses Association (ONA) fee of $331.84, United American Nurse (UAN) fee of $30.16 and district fee.

Collective Bargaining Members	Full Rate		75% Reduce Rate		50% Reduce Rate	
District Number	Annual	EDPP	Annual	EDPP	Annual	EDPP
01	511.00	42.91	390.79	32.90	270.58	22.88
03	654.44	54.87	498.37	41.86	342.30	28.86
05	502.50	42.21	384.42	32.36	266.33	22.52
06, 07, 15, 17, 18, 19, 22, 24	506.00	42.50	387.04	32.58	268.08	22.67
08	526.00	44.16	402.04	33.83	278.08	23.50
10	548.50	46.04	418.92	35.24	289.33	24.44
12	546.00	45.83	417.04	35.08	288.08	24.34
13, 14	509.00	42.75	389.29	32.77	269.58	22.80
16	560.00	47.00	427.54	35.96	295.08	24.92
23, 28	502.00	42.16	384.04	32.33	266.08	22.50
30	507.00	42.58	387.79	32.65	268.58	22.71
33	550.50	46.21	420.42	35.36	290.33	24.52
34	554.00	46.50	423.04	35.58	292.08	24.67
35	541.00	45.41	413.29	34.77	285.58	24.13
37	499.00	41.91	381.79	32.15	264.58	22.38

President's Message . . .

Continued from Page 1

4. Communication is ubiquitous and consistent.
5. Changing processes and changing infrastructures lead to success.
6. Nursing care is provided in many alternative venues. The acute care setting is one of many settings for care and will be one of the venues as opposed to the primary venue.
7. Financial alignment between payers and providers accelerates change.
8. Education and preparation for tomorrow's nursing workforce changes in advance of the nursing practice changes and opportunities.
9. Risk-taking is a prerequisite for creating tomorrow's future.

Next Steps

Since June 30, 2005, these groups have been working collaboratively to create, from concept to implementation, a vision for the future of nursing in Ohio and a strategy for making that vision a reality. The first effort of its kind in the U.S., leaders from all walks of the nursing profession, as well as industries that serve health care and patients, are coming together to address staffing issues and alleviate the perceived need for legislative mandates to solve professional issues.

Originally, the goal for this collaboration was to look at the staffing issues that confront ONA, OHA and OONE. But as the groups worked together, they realized they had more in common than they had differences so a broader perspective evolved.

Four teams, Yellow, Red, Blue and Green, will identify strategic plans to positively impact the future of nursing and transform nursing education, nursing leadership capacity, and the work environment and staffing culture of nursing positions.

To achieve their Nursing 2015 vision, the 4 teams of volunteers are developing action plans focused on: 1) ways to ensure nurses are appropriately educated to fill their roles in a dynamic, evolving health care system; 2) improving the practice environment in both the physical and cultural sense; 3) preparing nurses to have and utilize the leadership skills needed to function effectively in the roles they will fill in the future. Ohio's efforts are being watched and imitated by other states.

To learn more about the initiative or to join one of the teams, visit the Nursing 2015 web site at www.nursing2015.wordpress.com.

Train the Trainer–Ohio Nursing Law and Rules, July 14, 2008

Registration Form—Train the Trainer

Name _____

Address_____

City _____ State_____ Zip _____

Daytime telephone: _____

E-mail: _____

ONA Member ($95.00) Member #_____
____ Non-member ($115.00)
____ I would like a Vegetarian Lunch
____ I would like to be on the mailing list for:
___ ONF
___ Future Events via **Email** **US Mail**

_____ Check Enclosed _____ Visa _____ Mastercard
_____ Discover _____ American Express

Card #: _____

Expiration Date (mm/yyyy) _____

Verification #____ Signature _____

Please return form and seminar payment no later than July 7, 2008 to the Ohio Nurses Foundation, Dept. LB-12, PO Box 183134, Columbus, OH 43218-3134, via fax at (614)237-6081, or register online at www.ohnurses.org> Events.

Office Use: Date Rec: ____ Amt.: _____ Check #: _____

Have your questions answered at this enlightening event:

What are the differences between the Ohio Board of Nursing and professional associations?

How are laws enacted and rules adopted?

What topics can be used for Category A presentations?

How can I modify my presentation to meet the needs of my audience?

Overview

This conference is designed for individuals who are interested in gaining the knowledge and skills to present continuing education sessions that meet the Ohio Board of Nursing's requirement that each nurse or certificate holder complete one contact hour directly related to the law and rules governing nursing practice in Ohio. This course has been updated since previously presented in 2001, 2002, and February 2008.

Testimonials from February 1, 2008 Event

"Should be mandatory for each nursing faculty that teaches this content to attend this informative program in order to obtain the latest update on Board of Nursing Law and Rules."

"Materials alone are worth the registration fee."

"Knowledgeable speakers provide resources and teaching strategies to make the topics meaningful and interesting."

Date, Time and Location

July 14, 2008
9:30 a.m. to 4:00 p.m.–*registration begins at 9:00 a.m.*
ONA Headquarters
4000 E. Main St.
Columbus, OH 43213
614-448-1030

Please visit our website at www.ohnurses.org for directions.

Objectives

1. Differentiate between the Ohio Board of Nursing and professional associations.
2. Describe the process for enacting laws and adopting rules.
3. Identify topics of law and rules that could be used as Category A presentations.
4. Identify strategies to tailor the topic to the audience.

Speakers

Jan Lanier, JD, RN, Deputy Executive Director, Ohio Nurses Association

Wynne Simpkins, MS, RN, Consultant, RWS Education, LLC

Pam Dickerson, PhD, RN, BC, President, PRN Continuing Education, Inc.

Contact Hours

5.08 contact hours of Category A (law & rules) will be awarded.

The Ohio Nurses Foundation (OBN-001-91) is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Criteria for successful completion include attendance at the entire day and submission of a completed evaluation form. (Partial hours may be considered).

Fee: (Includes contact hours, breaks, lunch, CD and notebook of handouts/teaching materials)
ONA Members: $95.00
Non-members: $115.00

Agenda

9:30 Welcome & Introductions
9:40 Differentiation between the Ohio Board of Nursing and Professional Associations–Jan Lanier
10:15 Break
10:30 The Law and Rule Process–Jan Lanier
11:30 Lunch (provided)
12:15 Potential Topics and Strategies for Teaching Category A–Pam Dickerson, Wynne Simpkins
1:45 Break
2:00 Strategies (continued)
3:45 Summary & Evaluation
4:00 Concluded

Registration or Questions: Call Sandy Swearingen at Ohio Nurses Foundation, 614-448-1030 (sswearingen@ohnurses.org) or Zandra Ohri at 614-448-1027 (zohri@ohnurses.org). Substitutions will be accepted. Refunds will be given with a 48 hours notice and minus a $25.00 administrative fee. We suggest layering clothing for variable temperatures.

Event Materials are Available for Purchase. If you are unable to attend but wish to purchase a notebook with handouts and the CD, please contact Sandy Dale Swearingen. The materials will be sent to you after the conference for a fee of $50.00 with a $5.00 shipping/handling charge and the appropriate Ohio taxes.

Asthma in Ohio: Education and Research Conference– August 1, 2008

Asthma is a chronic disease that affects the respiratory tract and results in inflammation and excess mucus production which narrows the airways. An asthma attack may be caused by a variety of triggers and is characterized by coughing, wheezing, chest tightness, shortness of breath and rapid breathing.

Asthma is considered the most common chronic illness in the United States. 31.3 million Americans have been diagnosed with asthma. In Ohio, 12.2% of adults and 13.3% of children will receive a diagnosis of asthma in their lifetimes. Nationally, in 2005, $183 million in direct medical costs and $140 million in indirect costs were related to asthma, creating an enormous economic burden. Nurses in virtually any practice setting are likely to provide care for persons with asthma.

In addition to the high prevalence of asthma, another challenge is the proper treatment and control of asthma. More than half of Ohio children with asthma had an asthma attack or visited the emergency department in the past 12 months. Children missed 14.7 million school days due to asthma. Among Ohio adults with asthma, 22.4% report daily asthma symptoms, 51.6% report difficulty sleeping at least once a month due to asthma and 12.9% said they were unable to carry out usual activities due to asthma some time in the past 12 months. Adults missed 11.8 million work days due to asthma.

While anyone can have asthma, there are notable disparities in the diagnosis and successful treatment of the disease. In Ohio, asthma prevalence rates among African Americans are 50% higher than for whites. Ohioans earning $15,000 or less are almost three times more likely to have asthma than those with incomes over $50,000. Females had nearly twice the inpatient hospital discharge rate of males with the primary diagnosis of asthma. From 1999-2003, the largest increase in hospital discharges with the primary diagnosis of asthma was among adults aged 65 and above.

Because of the challenges associated with asthma, a group called the Ohio Asthma Coalition (OAC) was formed in 2003 to improve the quality of life for people with asthma through information sharing, networking and advocacy. The OAC is a collaborative group of medical and public health professionals, business and government agency leaders, community activists and other interested persons with the vision of "living well with asthma." The coalition produced the Ohio Statewide Asthma Plan for addressing asthma across Ohio and hosted the Asthma Education Conference in 2006. More information about the OAC can be found at http://www.ohioasthmacoalition.org.

To promote asthma research and education, the OAC is collaborating with The Ohio State University Medical Center and Asthma Center, the American Lung Association of Ohio and the Ohio Department of Health to present the Education and Research Conference on Aug. 1, 2008. This exciting offering will be held at the Blackwell Hotel and Conference Center in Columbus, Ohio. The keynote speaker will be William J. Martin II, M.D., the associate director of the National Institute of Environmental Health Sciences and the director of the Office of Translational Research. The conference will feature prominent researchers and educators from around the State of Ohio, and will include review of the new National Asthma Education and Prevention Program's (NAEPP) guidelines. A call for abstracts has been issued for those interested in participating in the poster session. For more information about the upcoming conference, including registration information, please go to the OAC Web site http://www.ohioasthmacoalition.org.

Independent Studies—Instructions

One of the purposes of the *Ohio Nurse* is to help nurses meet their obligation to stay current in their practice. On the following pages are 3 independent studies:

- Professional Boundaries and Sexual Misconduct
- An Introduction to Peripherally Inserted Central Venous Catheters (PICC)
- Multiple Sclerosis: A Multi-Faceted Disease

FEES

The 3 independent studies in this edition of the Ohio Nurse are free to members of the Ohio Nurses Association. There is a fee of $12.00 for non-members. If you order any additional independent studies from the list at the end of this publication, there is a $12.00 fee plus shipping and handling for both ONA members and non-members.

GENERAL INSTRUCTIONS

1. Please read the independent study article carefully.
2. Complete the post-test, evaluation form and the registration form. We will accept copies of these forms so that you can keep the original in your files.
3. When you have completed the post-test, evaluation form and the registration form, return them to: Ohio Nurses Foundation, Dept. LB-12, PO Box 183134, Columbus, OH 43218-3134 with the fee (if applicable, see FEES above).

The post-test will be reviewed upon receipt. If a score of 70 percent or better is achieved, a certificate will be sent to you. If a score of 70 percent is not achieved, a letter of notification of the final score and a second post-test will be sent to you. We recommend that this independent study be reviewed prior to taking the second post-test. If a score of 70 percent is achieved on the second post-test, a certificate will be issued.

If you have any questions, please feel free to call Sandy Swearingen, at 614-448-1030 (sswearingen@ohnurses.org), or Zandra Ohri, MA, MS, RN, Director, Nursing Education, 614-448-1027 (zohri@ohnurses.org).

Professional Boundaries and Sexual Misconduct

This independent study has been developed for nurses who wish to learn more about professional boundaries and sexual misconduct relative to nursing practice. This study meets the OBN requirement for 1 contact hour in law and rules (Nursing Practice Act) governing nursing practice in Ohio required for renewal of an Ohio nursing license. 1.0 contact hour will be awarded for successful completion of this independent study.

This independent study was developed by Jan Lanier, RN, JD.

The planners and faculty have no conflict of interest. There is no commercial support for this independent study.

The Ohio Nurses Foundation (OBN-001-91) is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Expires 5/2010.

Objectives:

1. Define the terms related to professional boundary issues.
2. Discuss the various categories of offenders.
3. Identify what a nurse should do if a boundary crossing or violation has occurred.

Study

Have you ever shared your personal problems with a patient (or client)? Given a patient a gift? Complained to a patient about a co-worker? Socialized with a patient outside of your professional capacity? Accepted a gift of more than minimal value from a patient or family member?[1] If you answered yes to any of these questions you may have crossed a professional boundary. Crossing a professional boundary is a violation of the Ohio Nurse Practice Act and the rules adopted by the Ohio Board of Nursing. While most nurses recognize that engaging in sexual misconduct with a patient is wrong both legally and ethically—what actually constitutes that "misconduct" is often difficult to define. For example, many nurses ask, "Isn't it all right to date a former patient?" The relationship between boundary crossings and sexual misconduct is often poorly understood. Many nurses fail to recognize the inappropriateness of boundary crossings, believing that only sexual misconduct violates ethical or legal standards.

Maintaining professional boundaries and avoiding inappropriate sexual involvement can pose dilemmas for nurses who frequently find themselves sharing in their patient's most intimate life events. The very essence of nursing can be a "slippery slope" for many well-intentioned but naive, uninformed nurses. Patients trust that nurses will work in the patients' best interest. When a nurse engages in a sexual relationship with a patient, or otherwise crosses a professional boundary, that trust is violated.[2] The purpose of this independent study is to make nurses more aware of and sensitive to the importance of maintaining a professional nurse/patient relationship and to identify some of the negative consequences that can occur, both for the nurse and for the patient, when these boundaries are crossed.

The Ohio Board of Nursing has reported an increase in the number of complaints it has received alleging sexual misconduct or boundary violations by its licensees. This increase is likely the result of the changing face of the health care delivery system. Nursing care that heretofore would have been provided in an acute care setting now is being provided in patients' homes or community settings. Such settings are less public and less supervised than the traditional hospital or nursing home. Working with patients where they live often results in less formality and a loosening of the restraint that typically characterized the nurse/patient relationship in an acute care environment. In addition, advances in health care have increased the life expectancy of patients with chronic conditions, thereby allowing nurses to develop sustained relationships with patients and their families. Such relationships often lead to a blurring of the lines between caring professional and personal friend. Regardless of the setting or the length of time a nurse provides care to the same patient, the professionalism of the nurse/patient relationship must be maintained.

Sexual Misconduct: What is it?

Sexual misconduct is about power. It is an extreme abuse of the nurse/patient relationship. It is exploitation. It is about impairment and irresponsibility.[3] Engaging in sexual activity with a patient, as well as conduct that could reasonably be interpreted as sexual, is explicitly recognized as a violation of acceptable standards of safe nursing practice in Ohio. (Rule 4723-4-06 (M) Ohio Administrative Code [OAC].) Behavior, including verbal behavior, which is sexually demeaning, harassing, or seductive is considered sexual misconduct by the Board of Nursing. Under Ohio law, a patient is always presumed incapable of giving free, full, or informed consent to these behaviors. (Rule 4723-4-06 OAC). In other words, the rules of the Ohio Board of Nursing clearly make the nurse responsible for assuring that sexual misconduct does not occur even with a seemingly willing patient. "If the client consents, even if the client initiated the sexual contact, it is still considered sexual misconduct because it is an exploitation of the nurse/patient relationship."[4]

The impact of sexual misconduct varies and can be complicated by the trauma of a failed personal relationship. Should sexual involvement cease, a patient's response may range from a sense of exploitation to embarrassment, humiliation, and ultimately severe depression.[5] None of these reactions is conducive to the health and well-being of the patient, which ought to be the underlying goal of all nursing interventions.

What about dating a "former" patient?

Personal relationships that begin after the nurse is no longer caring for the patient pose significant questions. The Ontario College of Nursing has published guidelines that state, "nurses may initiate or engage in a relationship with a patient if it is anticipated that the patient will not require future care from the nurse. However, if the nature of the nurse/patient relationship was psychotherapeutic, the nurse may not engage in a romantic or sexual relationship for one-year post-termination, and then only if, in the nurse's judgment, the relationship would not have a negative impact on the client's well-being."[6] The American Nurses Association (ANA) Code of Ethics does not specifically address post-termination relationships but refers instead to private ethics. ANA has been encouraged to address this complex issue in the future.[7] The rules of the Board of Nursing are also silent on this matter. In the

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absence of clear standards regarding post-termination relationships, in dealing with a case involving a post-termination situation, the Board of Nursing members would likely look to standards developed by other entities or professions to determine if the nurse's conduct violated the laws and rules regulating professional practice. They would consider the type of nursing care provided and the length and nature of that care to determine whether sexual misconduct occurred. Regardless of when a personal relationship is established with a former patient, the nurse/patient role must not be resumed should future health care needs arise.

Case Study

Nurse A is an independent home care provider for a pediatric patient. During the time that she is providing care to the patient, the nurse becomes sexually involved with the patient's father. The nurse permits the father to take sexually oriented photographs of her, and she engages in sexual activity with the father in the basement of the patient's home. The nurse also becomes aware of marital problems being experienced by the patient's parents. The patient's mother discovers the photographs and a videotape of the sexual activity between the nurse and the father.

Although the sexual misconduct did not involve the nurse's patient per se, the Board of Nursing found that her actions violated standards of safe care because the term "patient" includes not only the recipient of nursing care but also groups or communities. Although the nurse's actions did not overtly compromise the direct nursing care provided to the patient, the impact of her actions on the family unit (community) was extremely harmful and ultimately not in the best interest of the nurse's pediatric patient. The nurse's license was indefinitely suspended.[8] While sexual misconduct represents an extreme violation of the nurse/patient relationship, boundary crossings or violations can be equally devastating for both the patient and the nurse. Because boundary crossings are more subtle, they often go unnoticed and misunderstood. Nurses frequently believe they are helping their patients by becoming more friend than professional nurse. This is never acceptable behavior.

What are professional boundaries and why are they important?

Simply put, "professional boundaries" are the limits to how a (nurse) acts with a patient."[9] These boundaries are not visible. Nonetheless they define the types of behaviors that are most likely to enable nurses to effectively meet the health care needs of their patients and their patients' families. The concept that there are "limits" to acceptable nursing behaviors within the nurse/patient relationship and the reason for those limits form the framework for an understanding of the intricacies of professional boundaries. "Anything goes" cannot be the watchword to guide nursing behavior. Certain actions are not acceptable when a nurse is caring for a patient. Limits exist to help assure that a vulnerable patient is not exploited in any way even by a well-meaning nurse. Professional boundaries are defined as the "space between the nurse's power and the patient's vulnerability. The power... comes from the professional position of the nurse and the nurse's access to private knowledge about the patient. Nurses' professional position affords them control over life-sustaining therapies and complex equipment through which they exert subtle but tremendous influence over their patients' behaviors. This power, which is an essential element in the nurse/patient relationship, enables the nurse to positively influence the patient's health status. However, if the extent of that power is not limited through the establishment of appropriate professional boundaries, the patient is subjected to unacceptable risks that could ultimately affect the patient's physical and emotional health."[10]

The difficulty in defining and maintaining professional boundaries has long been recognized within the nursing profession. "Professional nursing... is emotionally complicated. It requires an ability to be meaningfully related to a patient and family yet separate enough to distinguish one's own feelings and needs."[11] The innate care-taking style that is a hallmark of the nursing profession increases nurses' susceptibility to being caught up into intense relationships. Further, boundaries and professionalism may be defined differently by members of the same staff.[12] Casual conversation for some may be excessive personal disclosure for others. "Joking and camaraderie may be seen as contributing to a pleasant atmosphere in some circumstances but may lead to boundary crossings in others, particularly if the jovial atmosphere is not counterbalanced by a solid understanding of professionalism."[13]

Boundary Crossings v. Boundary Violations

While some boundary crossings (accepting small gifts, sharing personal information, inviting a patient home) may seem innocuous, such incursions outside of the so-called "zone of helpfulness" can lead to more serious boundary violations. The likelihood of a boundary violation increases when the nurse assumes an additional role in the life of a patient, i.e., friend or cohort rather than professional caregiver.

Case Study

A nurse is providing care to an elderly nursing home resident. The resident's family lives out-of-state and is not able to celebrate holidays or special occasions with her. The nurse begins to invite the resident home for the holidays, and the resident soon begins to count on these outings and looks forward to them. The nurse unexpectedly decides to leave employment at the long-term care facility and the social interactions with the resident suddenly cease. The resident does not understand what happened to her "friend" and feels a sense of personal rejection and desertion. What began as a well-meaning attempt to provide a positive experience for the resident ultimately had negative consequences for her.

Avoiding boundary violations does not mean nurses must sacrifice their helpful natures. Instead, helpfulness must be consciously centered along a continuum of professional behavior. The "zone of helpfulness" is located in the center of the continuum and is the zone in which the majority of patient interactions should take place. On either side of the center of the continuum are under-involvement or over-involvement.[14] When a nurse is under-involved with patients, distancing, disinterest, and neglect occur.

Conversely, when there is over-involvement, the risk of boundary crossings, boundary violations, and possibly sexual misconduct increases. There are no definite lines separating the zone of helpfulness from the ends of the continuum, instead it is a gradual transition or melding.[15] Nurses must be wary, however, when their interactions with patients border on the edges of the zone of helpfulness. Often it is not the action itself but the motive behind the action that determines whether a boundary has been violated. The complexity of maintaining professional boundaries is demonstrated in the following case study.

Case Study

"A nurse gives a young female patient a compact disc featuring a favorite pop singer. The music is intended to provide a welcome distraction during strenuous rehabilitation exercises. Conversely, a nurse gives the same patient the same gift, but does it secretly, indicating that the gift reflects how special the patient is to the nurse. One nurse has a therapeutic motive for the gift while the other is trying to be friends."[16]

The second nurse in the above scenario crossed a professional boundary with the patient while the first nurse did not. The difference is the motivation behind the gift and the way in which the gift was presented. "When providing special privileges to a patient, one must always consider the motive behind the action. Was it done openly as encouragement or as a reward for efforts to comply with a care regimen; or was it done to gain approval and acceptance from the patient?"[17]

Experts have identified five stages of boundary infringement.[18] They are:

Stage I — Inadvertent crossings where a nurse fails to set limits with a patient.
Stage II — Attending to the patient in special ways.
Stage III — Providing special favors under the guise of secrecy. The patient becomes significantly enmeshed with the nurse.
Stage IV — Overt exploitation, active involvement of the patient, and the exchange of gifts.
Stage V — Justifying and permitting extreme forms of misconduct accompanied by reliance on a rationalized delusional system.

The danger in stages I and II is the tendency to move to the other stages.

What does the law say about maintaining professional boundaries?

Ohio law authorizes the Board of Nursing to take disciplinary action when a nurse fails to establish and maintain professional boundaries with a patient. (Section 4723.28 (B)(31) Ohio Revised Code ORC). Nurses also risk disciplinary action if they obtain or attempt to obtain money or anything of value by intentional misrepresentation or material deception in the course of practice. (Section 4723.28 (B)(13) ORC). Rules of the Board further define expectations with respect to boundary violations.

- Nurses are not to misappropriate a patient's property or engage in behavior to seek or obtain personal gain at the patient's expense.
- Nurses are not to engage in behavior that constitutes inappropriate involvement in a patient's personal relationships.
- Nurses are not to engage in any behavior that could reasonably be interpreted as inappropriate involvement.

(Rule 4723-4-06 Ohio Administrative Code)

Case Studies

A nurse has been caring for an elderly patient for several months. Recently the patient has given the nurse gifts that appear to be family heirlooms. Is this a violation of the Nurse Practice Act?

Many times grateful patients want to give gifts to their nurses. The law prohibits obtaining or attempting to obtain anything of value by intentional misrepresentation or material deception in the course of practice. Most gifts are not obtained by deception, so in deciding whether to accept a gift, one must first determine whether the agency policy permits gifts to be accepted. If so, the nurse must analyze the motives behind the gift. Often the decision about whether to accept a gift becomes an ethical rather than a legal dilemma. Gifts that are highly personal, overly sentimental, or represent a large investment of the patient's time, energy, or money should be graciously and sensitively declined. Gifts from psychotic, delusional, or delirious patients must be declined.[19]

A nurse had been providing care to an elderly patient for many months. One day, the nurse happens to mention that she is having serious financial problems. The patient offers to loan the nurse $5000. At first the nurse refuses but reconsiders as her financial situation worsens. The nurse agrees to repay the money on a set schedule. Initially, payments are made as promised, but once again financial problems arise that prevent the nurse from making payments. The patient's family members, upon learning of the arrangement, report the nurse to the Board of Nursing. Did this nurse violate the Nurse Practice Act?

While the money was not obtained by deception or misrepresentation, nonetheless a significant boundary violation occurred. The nurse received personal gain at the patient's expense. The nurse inappropriately

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shared her own personal problems with the patient–a boundary crossing. Subsequently, a boundary violation resulted when the nurse accepted a loan from the patient. The loan arrangement significantly altered the nurse/patient relationship and potentially jeopardized the ability of the nurse to care for the patient on a strictly professional level. Boundary violations do not just happen. Often there are signals that indicate a nurse is at risk for crossing the line between appropriate and inappropriate behavior.

Danger Signals in Nurse/Patient Relationships[20]

- You are spending a disproportionate amount of time with a patient.
- You are with a patient when off duty.
- The patient remains awake to see you when you are on the night shift or dresses in a particular fashion prior to your arrival on duty.
- You feel you are the only one who understands the patient; other staff are jealous of your relationship with the patient.
- You tend to keep secrets with the patient.
- You tend to report only negative or positive aspects of the patient's behavior.
- You "swap" patient assignments.
- You are guarded and defensive when someone questions your interaction or relationship with the patient.
- Your patient talks freely and spontaneously with you, and may even engage in conversation with sexual overtones. Patient remains silent and defensive with other staff or may avoid them altogether.
- Your style of dress for work has changed since you started working with the patient.
- You receive visits, cards, letters, e-mails, or phone calls from the patient after discharge.
- You tend not to accept that the patient is a patient.
- You view the patient as "your" patient in a possessive way.
- You choose sides with the patient against wife, husband, or children.
- You answer the patient's personal questions of you in a vague manner or you give your patient "double messages."
- You respond to a request for medications, passes, and the like differently for different patients.
- The patient continues to turn to you because "other staff members are all too busy."
- You tend to think that you are immune from fostering a non-therapeutic relationship.

Summary

Nurses often need help understanding how to effectively balance professionalism with effective care-giving. In other words, how to stay within the "zone of helpfulness." Administrators and managers as well as nursing colleagues can help nurses with this difficult matter by being sensitive to the challenges and alert to signs of boundary crossings. Asking someone to be professional is too subjective.[21] "Employers should develop policies and guidelines for their own institutional circumstances that define a caring professional relationship and discourage inappropriate personal friendships with patients. To be effective these policies should reflect the types of care relationships that are commonplace in the particular setting."[22] Awareness is the key to avoiding crossing the professional boundary. "Being cognizant of one's own feelings and behaviors and observant of the behaviors of other nurses are important steps in finding the middle ground on the professional continuum. Nurses must also be clear about their own needs and the needs of their patients. They need to separate the personal from the professional."[23] Patients need professional health care from a nurse, not personal friendship.

Endnotes

1. Momentum, the official newsletter of the Ohio Board of Nursing; Spring, 2002
2. "Disciplinary Guidelines for Managing Sexual Misconduct Cases; National Council of State Boards of Nursing; Chicago, Il.; 1996 pg 3
3. Ibid. pg 11
4. Ibid. pg 3
5. Ibid. pg 11
6. Ibid. page 17 citing Schoener, 1989
7. Ibid. pg 18
8. Momentum, pg 4
9. "Expectations: A Consumer's Guide to the Expected Behavior of a Health Care Professional"; National Council of State Board's of Nursing; Chicago, Il.; 1996
10. Momentum pg 1
11. Crampton, Karen; "Professional Boundaries in the Dialysis Setting"; Dialysis & Transplantation; September, 2001; pg. 596
12. Ibid.
13. Momentum; pgs 1-2
14. "Professional Boundaries"; National Council of State Board's of Nursing Chicago, Il.; 1996
15. Momentum; pg 2
16. Ibid.
17. Ibid.
18. Disciplinary Guidelines; pg 19
19. Momentum, pg 6
20. Disciplinary Guidelines; pg 26
21. Crampton; pg 594
22. Ibid.
23. Ibid.

Professional Boundaries and Sexual Misconduct
Post -Test and Evaluation Form

DIRECTIONS: Please complete the post-test and evaluation form. There is only one answer per question. The evaluation questions must be completed and returned with the post-test to receive a certificate.

Name:_____ Final Score:_____

Please mark true or false to the following statements:

_____1. Professional sexual misconduct is a breach of trust.
_____2. It's okay to talk about one's personal problems or tell off-color jokes to a patient.
_____3. Professional sexual misconduct involves power and putting the caregiver's needs first.
_____4. It is always okay to accept gifts from a patient.
_____5. It is always okay for a nurse to interfere with a patient's personal relationships when in the nurse's judgment the relationships may hinder the patient's recovery.
_____6. Giving a patient a gift is okay if the gift is kept a secret so as not to make other patients feel bad.
_____7. The Ohio Board of Nursing has stated that a nurse may date a former patient if the nurse/patient relationship ended at least one year prior to the date.
_____8. Only if a nurse engages in sexual misconduct with a patient has the nurse crossed the line into unacceptable professional behavior.
_____9. While professional sexual misconduct may be wrong, the nurse can be excused if the conduct was initiated by the patient.
_____10. The incidence of boundary violations is increasing because nurses are more likely to provide care in less formal settings and over prolonged periods of time.
_____11. Sexual misconduct only refers to actual sexual contact, intercourse, or rape.
_____12. Any time a nurse could use knowledge of a patient to meet the nurse's needs a red flag should be raised by the power imbalance.
_____13. Boundaries are the limits that allow for a safe connection with the patient based on the patient's needs.
_____14. Joking and camaraderie may contribute to a pleasant work environment but could also lead to boundary crossings if not balanced by an understanding of professionalism.
_____15. There are no limits to acceptable nursing behavior. Regardless of the situation, nurses simply need to pay attention to their intuition to determine how to best relate to a patient.

Select the one correct answer

16. If a nurse feels sexually attracted to a patient, the nurse should:
    a. Discuss the feelings with a colleague
    b. Tell the patient
    c. Act on those feelings
17. If a patient demonstrates interest in developing a sexual relationship with the nurse, the nurse should:
    a. Encourage the patient
    b. Feel sexually attractive
    c. Transfer the patient's care to another nurse
18. Which of the following is (are) a danger signal(s) regarding nurse/patient relationships:
    a. Stopping to see the patient on your day off
    b. Swapping assignments so you can take care of this patient
    c. Feeling that you are the only one who truly understands the patient
    d. All of the above
    e. None of the above
19. You have identified that a particular nurse colleague seems to be attracted to a patient. You should:
    a. Ignore the situation
    b. Alert the patient to the attraction
    c. Discuss the matter with your roommate
    d. Suggest to the nurse that she think carefully about her involvement with the patient and consider alerting the nurse manager if the problematic behavior continues.
20. A nurse risks disciplinary action by the Board of Nursing for failure to establish and maintain professional boundaries if the nurse:
    a. Uses a patient's credit card with the patient's permission
    b. Begins to see the patient socially while continuing to provide nursing care
    c. Accepts a diamond bracelet from a grateful patient
    d. All of the above
    e. b and c only

Match the stages of boundary infringement with the definitions:

21.	____Stage I	a.	Nurse takes care of the patient in special ways
22.	____Stage II	b.	Rationalized delusional system, secret meetings, sexual misconduct
23.	____Stage III	c.	Inadvertent crossings where nurse fails to set limits with the client
24.	____Stage IV	d.	Nurse provides secrecy for special favors
25.	____Stage V	e.	Exchange of gifts, overt exploitation

Evaluation

1. Were the following objectives met?
    A. Define the terms related to professional boundary issues. YES NO
    B. Discuss the various categories of offenders. YES NO
    C. Identify what a nurse should do if a boundary crossing or violation has occurred. YES NO
2. How long did it take you to complete the study, the post-test, and the evaluation form? _____

Registration Form–Professional Boundaries

Name:_____
(please print clearly)
Address: _____
Street City State Zip

Day phone number: (_____) _____ Email Address:_____

RN or LPN?: RN LPN ONA Member YES NO ONA Member Number (if applicable):

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Each study in this edition of the *Ohio Nurse* is free to members of ONA. Any additional independent studies that an ONA member would like can be purchased for $12.00 plus $3.00 S/H by filling out the order form at the end of this publication.

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Charge to: ___ Visa ___ MasterCard ___ Discover ___ American Express

Card #: _____ Signature: _____ Exp. Date:_____ Verification #: _____
Please send **check or credit card information** along with this completed form to: Ohio Nurses Foundation, Dept. LB-12, PO Box 183134, Columbus, OH 43218-3134.
ONA OFFICE USE ONLY
Date Received: _____ Amount: _____ Check No: _____

An Introduction to Peripherally Inserted Central Venous Catheters

INDEPENDENT STUDY

This independent study has been developed to improve the nurse's knowledge and understanding regarding the use and care of PICCs. 1.5 contact hours will be awarded for successful completion of this independent study.

This independent study was developed by: Nancy L. Stone, RN, CCRN, Manager of PICC Services, Lancaster, Ohio. The planners and faculty have no conflict of interest. There is no commercial support for this independent study.

The Ohio Nurses Foundation (OBN-001-91) is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Expires 12/2009

OBJECTIVES

Upon completion of this independent study, the learner will be able to:

1. Review the terminology associated with vascular access devices.
2. Identify the indications and contraindications for PICC placement.
3. Describe appropriate care and maintenance for PICCs.
4. Explain the complications associated with PICCs.
5. Discuss PICC removal.

Introduction:

Peripheral intravenous injections and infusions were used as early as 1670. Werner Forssamn, a surgical intern, first reported insertion of a Central Venous Catheter (CVC) in a human in 1929; he cannulized his own right atrium via the cephalic vein. In 1953, Sven-Ivar Seldinger developed a technique that facilitated catheter placement in lumens and body cavities. The Seldinger technique revolutionized medicine by allowing the central venous system to be accessed safely and easily.

Nurses began inserting peripheral intravenous access devices (hand/arm) in the 1940's. In the late 1970's and early 1980's training programs for Peripherally Inserted Central Venous Catheters (PICC) began teaching nurses the intricacies of peripheral central line insertion. By 1990 most Boards of Nursing had accepted central line insertion by nurses, specific to PICC placement as within the scope of nursing practice. Initially the success rate for PICC insertion by nurses ranged from 70% to 80%. Today, portable ultrasound options for vein identification have pushed successful PICC insertions by nurses to greater than 90%.

PICC placement continued to have increased popularity throughout the 1990's and in to the next century. Lower infection rates and longer dwell times than traditionally placed CVC lines are the two main reasons that PICCs continue to gain popularity. Lower cost of insertion, ability to train existing staff and low incidence of serious complications continue to create a situation for PICC usage to increase. PICC care and maintenance is relatively easy to teach patients and/or their significant others. Therefore, patients can be discharged safely with a PICC line for continued intravenous therapy at home.

DEFINITIONS

Central Venous Catheter (CVC): for the purpose of this self-study only traditional percutaneous (via needle-puncture of the skin) CVCs will be discussed. A CVC is a catheter placed into a large vein in the neck, chest or groin. They are inserted by physicians using the Seldinger or modified Seldinger technique when the patient needs more intensive cardiovascular monitoring, for assessment of fluid status, and for increased viability of intravenous drugs and fluids. The most commonly used veins are the internal jugular, subclavian and femoral. CVCs placed in the internal jugular and subclavian veins should terminate proximal to the junction of the superior vena cava and the right atrium (cavo-atrial junction). A chest radiograph should be obtained to determine location of the catheter tip and to exclude pnuemothorax or catheter malposition. The distal tip of a femoral CVC lies within the inferior vena cava, below the diaphragm. Dwell time for a CVC is usually considered seven to ten days.

Intravenous (IV): means "within a vein." It usually refers to giving medications or fluids through a needle or tube inserted into a vein, which allows immediate access to the blood supply. Modified Seldinger Technique: a vein is accessed with a regular hypodermic needle, an intravenous catheter or an echogenic needle. A thin, soft, flexible guide wire is then threaded into the vein through the needle or catheter several inches. The guide wire is never advanced past the shoulder. Once the guide wire is placed, the needle is removed, leaving just the guide wire in place. A nick is made into the skin beside the guide wire, and an introducer sheath with dilator is inserted over the guide wire into the vein. Then the guide wire and dilator are removed; the PICC catheter is inserted through the introducer sheath, which is then peeled away.

Midline: is a peripherally inserted 6-8-inch catheter that may be used in patients requiring intermediate duration (i.e., several weeks) of physiologically compatible intravenous (IV) therapy. Unlike conventional short peripheral IV catheters, the midline catheter does not require changes every 72-96 hours. The technique and veins used for Midline placement are the same for PICC placement. The catheter tip ideally lies in the axillary vein. A chest radiograph is not needed for catheter tip verification. Only nurses certified in PICC/Midline placement may insert a Midline IV.

Peripheral Intravenous Catheter (PIV): is the most common intravenous access method used in hospitals. A peripheral IV line consists of a short catheter (1/2 inch to 2 inches long) inserted through the skin into a peripheral vein. A peripheral vein is defined as any vein that is not in the chest or abdomen. Arm and hand veins are typically used. However, leg and foot veins can be used. Refer to the facility's policy regarding the use of leg/foot veins for peripheral IV access. A peripheral IV cannot be left in the vein indefinitely, because of the risk of insertion-site infection leading to phlebitis, cellulitis and bacteremia. The Infusion Nurses Society (2006) recommends that every peripheral IV be replaced within 72-96 hours to avoid infection at the insertion site.

Peripherally Inserted Central Venous Catheter (PICC): is a form of intravenous access that can be used for a prolonged period of time. The PICC is inserted into a peripheral vein such as the cephalic vein, basilic vein, or brachial vein using a modified Seldinger technique under ultrasound guidance; then advanced through increasingly larger veins, toward the heart until the tip rests in the distal superior vena cava or cavo-atrial junction. Physicians, physician assistants and registered nurses trained and certified in the insertion technique, may place PICCs. A chest radiograph should be obtained to determine location of the catheter tip and to exclude catheter malposition. Depending on the purpose for which the PICC was inserted along with appropriate care and maintenance a PICC can remain in place for up to one year.

Indications/Contraindications for PICC Insertion:

A PICC is an effective intermediate and long-term central venous vascular access device. Its functions are compatible with those of other percutaneously inserted central venous catheters. A PICC should be considered in patients requiring IV therapy for more than seven days or who have poor peripheral venous access and/or require frequent blood draws. Other indications include infusion of Total Parenteral Nutrition (TPN), vesicants such as chemotherapy agents or drugs known to be irritants. Vesicants are IV fluids with a pH less than 5 or greater than 9 or an osmolality greater than 600 mOsm/L. Vesicants can cause an injection site reaction (blistering) often referred to as chemical cellulitis if the drug escapes from the vein or IV catheter into the skin (extravasation).

IV medications and solutions considered irritants cause a short-lived and usually limited irritation to the vein. In addition, a PICC should be considered for the infusion of vasopressor agents such as Dopamine and Norepinephrine. Vasopressors (considered a vesicant) can cause tissue necrosis and skin sloughing when infused through a peripheral IV that extravasates. The tissue necrosis is caused by severe vasoconstriction of

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Becoming an Approved Provider–2008

Objectives:

1. Identify the background for the continuing education process.
2. Discuss the rules and criteria to be used to develop an approved provider unit.
3. Describe the process in becoming approved as a provider.

The Ohio Nurses Foundation is offering a special class for individuals who wish to become an Approved Provider of continuing education or are new into an existing Provider Unit. This class will discuss the reasons for developing an approved provider unit; how to establish a unit; and how to obtain approval as a provider unit. A prerequisite for this class is for the learner to have submitted at least one individual CE event application to ONA for approval.

Date, Time and Location
July 16, 2008 or October 8, 2008
10:00 am–2:30 pm
Ohio Nurses Association Headquarters
4000 East Main Street
Columbus, OH 43213

Fee: $55 ($50 for second person from same organization).

Speaker: Zandra Ohri, MA, MS, RN, Director, Nursing Education, Ohio Nurses Association

If you have any questions, please contact Zandra Ohri at 614-448-1027 (zohri@ohnurses.org) or Sandy Swearingen at 614-448-1030 (sswearingen@ohnurses.org).

4.2 contact hours will be awarded including 1 contact hour of Category A (law and rules). Criteria for successful completion includes attendance at the entire event and submission of a completed evaluation form.

The Ohio Nurses Foundation (OBN-001-91) is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Registration Form

Name _____

Address_____

City _____ State_____ Zip _____

Daytime telephone: _____

E-mail: _____

Employer:_____

I would like to attend:
____ July 16, 2008
____ October 8, 2008
____ I would like a Vegetarian Lunch

Fee: $55 ($50 for second person from same organization). Fee includes contact hours, handouts and lunch.
_____ Check Enclosed _____ Visa _____ Mastercard
_____ Discover _____ American Express

Card #: _____

Expiration Date (mm/yyyy) _____

Verification #____ Signature _____

Please return form one week prior to the event to the Ohio Nurses Foundation, Dept. LB-12, PO Box 183134, Columbus, OH 43218-3134 or register online at www.ohnurses.org > Events
Office Use: Date Rec: ____ Amt.: _____ Check #: _____

Ohio Nurses Association

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The second edition of *Legal Regulations & Professional Standards for Ohio Nurses* is available for purchase from the Ohio Nurses Association (ONA). Much has changed in the health care environment since the initial publication of this resource ten years ago and this new, updated edition will enable students and registered nurses alike to become more familiar with the law, rule, and professional standards that define nursing practice.

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Table 1. Examples of IV Medications that are Irritants or Vesicants (including vasopressors)

Acyclovir	Ganciclovir sodium	Phenytoin sodium
Amphotercin B	Iron dextran	High-concentration potassium chloride
Ampicillin sodium	Mannitol	Promethazine hydrochloride
Ampicillin sodium/ sulbactam sodium	Meperidine hydrochloride	Sodium bicarbonate
Ciproflaxin	Morphine Sulfate	Sodium nitroprusside
Dextrose 10 or greater	Nafcillin sodium	Tiracillin disodium
Dopamine	Norepinephrine	Vancomycin
Erythromycin	Oxacillin sodium	Most chemotherapeutic agents
Fluconazole	PPN (high osmolarity) and TPN (partial and total parenteral nutrition)	

the blood supply to surrounding tissue.

The Infusion Nurses Society (2006) defines extravasation as the "inadvertent administration of a vesicant medication or solution into the surrounding tissue". Infiltration is defined as the "inadvertent administration of a non-vesicant medication or solution into the surrounding tissue". Infusion of vesicants, irritants and vasopressors through a central vein allow for better hemodilution. A PICC may also be used to measure and/or monitor central venous pressure. PICCs are the preferred central venous access site for patients with increased intracranial pressure, suffering from trauma or burns resulting in chest injury, or if the patient has respiratory compromise due to chronic obstructive pulmonary disease, a mediastinal mass, cystic fibrosis, or pneumothorax.

An upper extremity vein cannot be used for PICC insertion if there is a history of any of the following within the region of that upper extremity: vascular surgery (including hemodialysis shunts), radiation therapy, venous thrombosis, or axillary lymph node dissection. In addition, local dermatitis, cellulitis, burn injury, abscess, or infections in or near the region of planned insertion site are contraindications for using that extremity for the procedure. Caution should be used when placing a PICC in patients with Permanent Pacemakers and Automated Internal Cardiac Defibrillators (AICD). In these patients, the PICC should be placed in the arm on the opposite side of the Pacemaker or AICD placement in the chest to prevent potential dislodgement of the Pacemaker or AICD intravenous wires. Lastly, patients with chronic renal failure and end-stage renal disease are not appropriate candidates for PICC placement. The need to preserve peripheral veins for future dialysis fistulas is a critical issue for these patients.

PICC Insertion Considerations:

Insertion of a PICC requires a physician order and, based on facility policy, a signed consent form prior to insertion. A PICC may be inserted through the basilic, cephalic or brachial veins. However, research shows that the basilic vein is optimal for placement. The basilic vein has the largest diameter and the greatest blood flow of the peripheral arm veins. The basilic vein also offers the straightest route to the superior vena cava. While the brachial vein is smaller than the cephalic vein and has a variable course, it usually offers the second best insertion choice. This is because the brachial vein often takes a direct path to the basilic vein and then on to the superior vena cava. The cephalic vein is the third insertion choice, because it often narrows along its path and may form a sharp angle where it joins the axillary vein. Both of these issues increase the risk of catheter related mechanical phlebitis. Regardless of vein selection, the ideal point of insertion is above the antecubital fossa in order to minimize the mechanical problems associated with arm bending.

An RN who has been educated and certified in PICC line placement may insert a PICC. Certification usually requires an eight-hour seminar in PICC placement, complications, removal and care. It also involves three successful PICC placements in the presence of a preceptor. Insertion requires maximal sterile barrier precautions to reduce the risk of contamination and subsequent catheter-related bloodstream infections. Maximal sterile barrier precautions include the use of a mask, sterile gown, hair cover, sterile gloves, and large sterile drapes.

The Infusion Nurses Association (2006) now recommends the use of visualization technologies such as portable ultrasound that aid in vein identification and selection. Ultrasound not only increases the rate of successful PICC insertions but also increases safety. By using ultrasound the nurse can identify arteries, nerves and veins. Visualization technologies also allow the nurse to measure the circumference of the selected vein to assist in optimal catheter selection. In addition, the use of ultrasound allows PICC's to be placed higher in the arm, where the veins are larger and the incidence of thrombus formation is lower due to higher flow rates of blood. Prior to the availability of portable ultrasound machines, PICC placement by nurses was limited to palpable veins one to two inches above or below the antecubital space. PICCs come in a variety of brands and sizes (ranging from 16 to 23 gauge). They also come with the option of single, double or triple lumens. Appropriate vein and catheter selection are vital to the prevention of complications. Recently the Food and Drug Administration approved certain PICCs for use in power injections. Often referred to as "Power PICCs", they are designed to withstand the high pressure associated with radiocontrast studies.

Prior to PICC insertion, the procedure should be explained to the patient including risks and benefits. Depending on the facility's policy, the patient may need to give informed consent prior to insertion. The manufacturer's guidelines are followed for placement. Most PICCs are placed using a modified Seldinger technique. PICCs inserted by a nurse are rarely sutured in place; instead a sterile securement device is used to prevent catheter movement.

Documentation post insertion includes patient education and any problems encountered with catheter placement. In addition, document the size, length and type of catheter as well as the insertion location. Arm circumference, measured half way between the insertion site and the shoulder should also be documented. The PICC should not be used until radiographic verification of tip placement is received and documented. The ideal placement of the catheter tip is the cavo-atrial junction.

Care and Maintenance of PICCs:

Proper maintenance and care of PICCs is vital to the longevity (dwell time) and to the prevention of complications. Maintenance and care includes:

1) Proper handwashing technique, before and after patient and/or catheter contact is essential in the prevention of catheter related infections.
2) Maintain a dry, intact, clean, and adherent dressing. Change a transparent semipermeable membrane dressing and catheter securement device once a week using sterile technique. Dressings are to be changed any time they become wet, soiled or non-adherent. If a gauze dressing is used or gauze is used under the transparent dressing, the dressing should be changed every 48 hours. The insertion site should be cleaned thoroughly with chlorhexidine with each dressing change; allowing the chlorhexidine to dry completely before replacing the dressing. Most facility policies include wearing facemasks during PICC and CVC dressing changes.
3) Infusion caps should be cleaned vigorously with chlorhexidine or alcohol before accessing the line. Positive or neutral end caps can be used. Caps should be changed once a week and any time they become soiled. Open-ended PICCs need to be clamped before removing the infusion cap to prevent an air embolism.
4) To maintain catheter patency, flush catheter lumens every 12 to 24 hours when not in use and before and after any infusions. The Infusion Nurses Society (2006) standards recommend that the minimal flush volume be at least twice the volume capacity of the catheter and any add-on devices (extension tubing and stopcocks). To prevent catheter damage, use the syringe size recommended by the PICC manufacturer. As a general rule, all flushing should be done with a 10 ml or larger syringe to prevent excessive flushing force that

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can damage the catheter. A turbulent stop and go method of flushing is also recommended. The flush solution (0.9 normal saline and/or heparin) and amount used depends on facility policy, type of catheter, infusate and patient's allergy history. Many facilities have steered away from the routine use of heparin flushes due to the risk of heparin-induced thrombocytopenia. Normal saline used for PICC flushing should be preservative free. If heparin is used for flushing, keep these pointers in mind: use the SASH (saline, administer medication, saline, heparin) protocol when giving medications incompatible with heparin.

5) When obtaining blood draws from the PICC follow facility policy. No matter what method is used, stop all infusions before drawing blood and do not reinfuse the discard sample. After the blood sample is obtained, turbulently flush the catheter with 10 to 20 ml of 0.9 normal saline.
6) Test for blood return every time the PICC is used. Lack of blood return may be due to patient positioning, malposition of the catheter or thrombus formation.
7) Measure and document arm circumference every shift, the measurement should be taken half way between the PICC insertion site and shoulder. The arm should also be assessed at least once a shift for pain, erythema, edema or drainage. Increases in arm circumference or the development of pain, erythema, edema or drainage should be reported immediately.
8) Blood pressure cuffs or tourniquets should not be applied over the PICC, but may be placed distal to the catheter's location. Taking a blood pressure over the PICC insertion site can cause bleeding at the insertion site, increase the risk of thrombus formation, and cause retrograde blood flow, raising the risk of catheter occlusion.
9) Continue patient education on the care and maintenance of their PICC, especially those patients being discharged to home with the PICC intact.

Complications:

PICCs have a relatively low complication rate, but there are potentially serious problems related to their use. Complications of PICCs include:

1) Infection: Studies have shown that PICCs have a lower incidence of infection than traditional CVCs (PICC: 0.75 per 1,000 catheter days; CVC 2.51 per 1,000 catheter days). Catheter related infections are divided into two main categories: local infections and systemic infections. Local infections occur at the PICC insertion site. Signs and symptoms of an infected insertion site include: purulent or bloody drainage, erythema, edema, pain, fever, and/or tenderness. A culture of the insertion site may be obtained to verify infection versus a foreign body reaction or chemical phlebitis. Development of an insertion site infection requires removal of the catheter. The distal tip of the catheter should be cultured after removal anytime an infection is suspected.

Systemic catheter-related infections are usually related to bloodstream infections. Other systemic catheter-related infections include: suppurative thrombophlebitis and distant complications such as endocarditis or metastatic abscesses. Bloodstream infections related to PICC and other CVCs usually occur through contamination of the catheter hub leading to intraluminal colonization of the catheter. Catheter- related bloodstream infection are classically defined by three elements:

1) isolation of the same microorganisms from the catheter and from at least two concurrent blood cultures from a peripheral vein;
2) clinical and microbiological investigation does not reveal an alternative source for the bloodstream infection, and
3) a negative culture of the infusate. Cultures of the infusate are rarely obtained in clinical practice, since the infusate is rarely responsible for bloodstream infections. Suppurative thrombophlebitis is defined as infection of the thrombus surrounding the intravascular device with extension and invasion of the cannulated vein.

Signs and symptoms of a systemic infection include: fever, chills, tachycardia, fatigue, muscle aches, weakness, hypotension, and an elevated white blood count. Bloodstream infections, suppurative thrombophlebitis and distant complications can be life threatening. Early diagnosis and treatment is imperative. The PICC should be immediately removed when a systemic catheter-related blood stream infection is confirmed.

2) Thrombus Formation: Thrombus formation is the most common complication reported in relationship to PICCs. The incidence of upper extremity deep vein thrombosis is increasing at the same time the rate of PICC insertion is on the rise. Any device inserted into the vascular system increases the risk of thrombus formation; either in the vessel or in the catheter. The three primary causes of thrombus formation in a vessel are known as the Triad of Virchow. The first cause is an alteration in the vein wall caused by injury, irritation, or disease process. Vein irritation can occur during the insertion of a PICC or when the vessel is too small to accommodate the diameter of the PICC. A catheter that is too large will rub against the intima of the vein into which it has been inserted. The second cause of thrombus is stasis, obstruction, or change in blood flow due to the catheter's presence. For this reason, it is important that the vein size and the catheter size allow sufficient blood flow around the PICC. Thirdly, platelet aggregation due to hypercoagulability can also cause thrombus. Patients with hypercoagulability disorders who need central venous access may require a daily low dose of warfarin to help prevent thrombus formation.

Two forms of thrombi may occur: intraluminal and mural thrombus. An intraluminal thrombus forms inside the catheter and can result in partial or complete occlusion.

Partial or complete occlusions caused by intraluminal thrombus can often be dissolved with a small dose of a fibrinolytic agent that is instilled for 30-120 minutes and then withdrawn from the catheter. If catheter patency is not restored by the use of a fibrinolytic agent, the catheter should be discontinued. Follow manufacture's recommendations and facility's policy for the use of a fibrinolytic to declot a PICC.

A mural thrombus forms between the catheter and the vein wall. Mural thrombi can also be partial or complete. Symptoms of a mural thrombus that significantly restricts blood flow around the catheter may include: swelling near and distal to the point of occlusion, peripheral collateral venous distension, periorbital edema, and/or tearing on the affected side, or discomfort/pain in the arm, shoulder or jaw on the affected side. The arm may also become reddened and warm. In addition, difficulty flushing and infusing may be experienced.

When a mural thrombus is suspected, measure upper arm circumference half way between the PICC insertion site and shoulder. Compare with the arm circumference documented at the time of placement. If the change in circumference is less than three centimeters, with mild signs and symptoms; the PICC may be used, but continued assessment is warranted. If the circumference change is greater than or equal to three centimeters and the patient is symptomatic, notify the physician. Treatment usually involves removal of the PICC, elevation of the arm, and warm moist heat applied 20-30 minutes four times a day. Anticoagulation therapy may also be ordered. The incidence of mural thrombus is approximately 2.5% in patients with a PICC. Approximately one per 1,000 patients who develop a mural thrombus will experience a pulmonary embolus.

3) Nonthrombotic Catheter Occlusions: Drug precipitations, lipid deposits, mechanical occlusions, and fibrin formations at the tip can also cause catheter occlusions. Medication crystallization and precipitations may occur if the pH of a solution varies too much from the drug's normal stability range. Adding a solution that returns the pH back to the normal range may liquefy the drug and dissolve the precipitate. For crystallized medications with a normally high pH, such as phenytoin sodium, sodium bicarbonate can be infused to increase the pH in the hopes the medication will return to its liquid state. With naturally low pH solutions such as vancomycin, hydrochloric acid may be used to lower the pH and dissolve the occlusion. Lipid occlusions are more prevalent with silicone catheters. Lipid emulsions tend to adhere to silicone. Seventy percent ethyl alcohol is the drug of choice used to dissolve lipid occlusions.

Mechanical occlusions can also obstruct flow through a PICC and can lead to other complications. Mechanical occlusions include: crimping of the catheter and tip malposition against a vessel wall. Tip malposition against a vessel is more common with tip positioning high in the superior vena cava and is more prevalent with left sided insertion. Another type of mechanical occlusion is catheter pinch-off syndrome. Catheter pinch-off syndrome is compression of the catheter between the first rib and clavicle. An

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intermittent positional PICC may indicate catheter pinch-off syndrome. A hallmark sign of this syndrome is noted when the patient changes positions by rolling the shoulder backward or raising their arm and the position change results in return patency of the catheter.

Fibrin begins to build up on the catheter almost immediately after insertion; sometimes developing into a sheath that may completely encase the catheter. In this incidence, infusions may still be possible, but the sheath will occlude the distal opening during aspiration and prevent withdrawal of blood from the catheter. This is known as persistent withdrawal occlusion. Fibrin may also build up on a PICC without completely enclosing it. In this case, a small piece of fibrin hangs off the catheter tip; known as a fibrin tail. Fibrin tails also represent a persistent withdrawal occlusion. Fibrin sheaths can often be resolved with an infusion of low dose fibrinolytic agent over two to four hours. Infusion of a fibrinolytic is not always successful and the fibrin tail may develop again.

4) Phlebitis: There are usually two causes of phlebitis at the PICC insertion site: mechanical and chemical. Mechanical phlebitis is caused by irritation of the venous endothelium by the catheter. This occurs more frequently when a PICC is inserted in the antecubital fossa versus the upper arm. The main causes of mechanical phlebitis are: small veins at the point of insertion, and catheter movement with the bending and straightening the arm.

Chemical phlebitis rarely occurs with solutions infused through a PICC, because the infusate exits the catheter at a point with adequate hemodilution. However, damage to the catheter body can lead to chemical phlebitis if the infusate leaks through the damaged area into surrounding tissue. Occassionally, a fibrin sheath develops over the catheter that allows retrograde flow of the infusate along the catheter. At the end of the fibrin sheath, the infusate can leak into the vein and cause chemical irritation. In some cases, the fibrin sheath may even force the infusate to leak at the insertion site. When this occurs, complications include both infiltration and chemical phlebitis.

To determine the grade of phlebitis use the phlebitis scale. For Phlebitis Grade 0, 1, 2: elevate the extremity and apply warm moist heat for 20-30 minutes, four times a day. A Phlebitis Grade of 3 or 4 is an indication for PICC removal, followed by continuous warm, moist heat application.

Table 2. Phlebitis Scale

Grade	Clinical Criteria
0	No symptoms
1	Erythema at site with or without pain
2	Pain at site with erythema and/or edema
3	Grade 2 plus streak formation, palpable venous cord
4	Grade 3 plus purulent drainage, cord > 1 inch in length

5) Catheter Malposition: Malposition can occur during PICC insertion or later; due to changes in intrathoracic pressure or catheter migration. It is crucial that determination of the distal tip placement be confirmed by chest radiographic immediately after insertion and prior to PICC use. Malposition can lead to serious complications. Catheter tip placement in the right atrium or right ventricle can lead to arrhythmia; while placement proximal to the superior vena cava increases the risk for phlebitis and thrombus formation.

Spontaneous migration of the catheter tip may result from forceful flushing or changes in intrathoracic pressure associated with coughing/sneezing, Valsalva maneuvers during vomiting, and heavy lifting. Migration can also occur as the result of disease processes such as Congestive Heart Failure, tumors or venous thrombosis. Proper PICC securement is vital to help prevent catheter dislodgement or migration. Tape should not be placed over the body of the catheter; adhesives may cause damage to the catheter. Research has shown securement devices are safer and more effective than suturing the PICC at the insertion site. The use of sutures increases the risk of infection; both at the insertion site and in the blood stream. Sterile securement devices are available in a wide range of designs to fit the variety of PICCs currently marketed.

Signs and symptoms of catheter malposition include: inability to flush, infuse, or aspirate, arrhythmias, "ear gurgling" sound, headache and pain, and swelling, redness, or discomfort in the shoulder, arm or neck. If catheter migration or dislodgement is suspected, stop all infusions and flushes and notify the physician. A chest radiograph should be done to verify tip placement. Based on the tip placement, the catheter may be pulled back a few centimeters or used as a peripheral IV. Due to the increased risk of infection PICCs are rarely re-advanced when they become dislodged or pulled out.

6) Catheter Damage: Catheter damage can occur with any PICC; sometimes due to defective products. More often than not, catheter damage is caused by lack of attention to or knowledge of the care and maintenance of PICCS. The damage can result from improper securement or inadvertently applying excessive pressure when flushing the PICC. Use of a syringe with a barrel smaller than 10 ml causes increased intraluminal pressure. This can cause catheter rupture. Other causes of damage include: contact with sharp objects and applying luer-locking devices too tightly (which can cause the catheter hub to crack). Catheter damage can also result from entanglement in bed linens, patient clothing or equipment. Once a catheter has been damaged, it should be considered contaminated.

Sometimes damaged catheters can be repaired. However, repair increases the risk of complications. Only an experienced clinician, using only the repair kit provided by the PICC manufacturer, should attempt to repair the catheter. Catheter repair is a short-term intervention only. A repaired PICC should not remain in place longer than necessary. Experts now recommend PICC replacement versus repair. Often, a damaged catheter can be replaced with an over-the-wire modified Seldinger procedure.

Table 3. Potential PICC Complications

Complication	Signs and Symptoms
Air embolus (rare)	Hypotension, lightheadedness, confusion, tachycardia, anxiety, chest pain, shortness of breath.
Catheter embolus (rare)	Shortness of breath, confusion, pallor, lightheadedness, tachypnea, hypotension, anxiety, unresponsiveness, shorter catheter measurement on removal than insertion.
Catheter malposition (can occur during or after insertion)	Hears gurgling sound during flushing of catheter (internal jugular tip malposition), arm or shoulder pain, headache, swelling in neck, dyspnea, absence of blood return, leaking at insertion site, arm swelling, back discomfort, chest pain or tenderness, arrhythmias (right atrium catheter malposition).
Infection	Fever, chills, tachycardia, fatigue, muscle aches, weakness, hypotension, erythema, swelling at insertion site, induration, purulent drainage at site, elevated white blood count.
Phlebitis	Erythema, pain at insertion site, streak formation, palpable venous cord.
Thrombus formation	Arm swelling above and below insertion site, erythema, peripheral collateral venous distension, periorbital edema, and/or tearing on the affected side, discomfort/pain in the arm, shoulder or jaw, inability to obtain blood return, difficulty flushing or inability to flush.

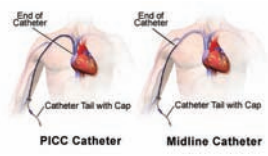
PICC Line Removal:

While the removal of a PICC is usually a simple procedure, problems can occur. The patient should be lying down, with the head of the bed slightly elevated while the PICC is being removed. Apply slow, smooth, gentle pressure to remove the catheter; without applying direct pressure on the insertion site. The patient should also be instructed to perform the Valsalva maneuver as the catheter exits. Lastly, the nurse should maintain the patient's arm below the level of the heart during PICC removal. The catheter should come out easily. If resistance is felt, stop. Resistance is usually caused by venospasm within the vein. Venospasms usually resolve with time. Apply slight tension to the line by taping it down, cover the exposed catheter with a dressing and allow time for the venospasm to resolve. Application of a warm, moist compress may help ease the venospasm. It is important not to continue to pull on the catheter if resistance occurs. Continuing to pull against resistance will aggravate the venospasm. In addition, pulling against resistance could cause the PICC to break, possibly leading to a life threatening catheter embolus. If resistance is met on the second attempt to remove the catheter, stop and notify the physician for further instructions.

Once the catheter has been successfully removed, apply manual pressure to the site for one to two minutes, or until all evidence of bleeding is gone. Cover the insertion site with a sterile occlusive dressing. The dressing can be removed after 24 hours. The entire catheter should be inspected and catheter length measured; comparing the length of the catheter to the documented insertion length. This safety measure verifies that the entire catheter was removed. If any part of the catheter appears to have broken off, apply a tourniquet to the upper arm at the axilla (to prevent catheter embolus). Notify the physician immediately and monitor the patient for signs of distress.

Midlines versus PICCs:

Many nurses use the terms Midline and PICC interchangeably. It is important for nurses to know and respect the difference between these catheters. Look-alike catheters, and similar insertion technique cause part of the confusion. Midlines are peripheral catheters that have a dwell time of two to four weeks. Midlines are not recommended for the infusion of vesicants or vasopressors. PICCs are central venous catheters that have a dwell time of up to one year. Table 4 highlights the major differences and uses between a Midline and PICC. The accompanying picture shows the difference in catheter tip placement. The catheter hub and all documentation should clearly define the catheter as a midline or PICC. Many facilities do not require a physician order or patient consent form for Midline placement. Follow facility policy regarding blood draws from Midline catheters.



Picture obtained from Carenotes™

Table 4 Comparison of Midline and PICC

Comparison Criteria	Midline	PICC
Placement of catheter tip	Axillary Vein	Superior Vena Cava
Appropriate for vesicant, irritating, or vasopressor infusates	No	Yes
Appropriate for infusing blood	Yes	Yes
Appropriate for blood draws	Yes	Yes
Appropriate for the infusion TPN	No	Yes
Indwelling Time	2-4 weeks	Up to 1 year
CXR Needed to confirm placement	No	Yes
Appropriate for CVP readings	No	Yes

Conclusion:

Vascular access is the cornerstone in the provision of care for any acute care setting. Greater than 90% of patients cared for in hospitals will have some type of IV access. Today, optimal catheter and vein selection are considered vital to patient safety. PICCs are gaining popularity due to lower cost and less severe complications. PICCs are recommended for therapies requiring infusions of vesicant and irritating medications and/or solutions that require long-term therapy. While not appropriate for every patient, PICCs offer an excellent alternative to frequent venipunctures and the routine use of other higher-risk, short-term central catheters. When used properly, PICCs are a reliable and safe vascular access device.

References Available Upon Request

An Introduction to Peripherally Inserted Central Venous Catheters
Post Test and Evaluation Form

DIRECTIONS: Please complete the post-test and evaluation form. There is only one answer per question. The evaluation questions must be complete and returned with the post-test to receive a certificate.

Name:_____ Final Score: _____

1. Nurses began inserting peripheral IV catheters in:
   a) 1929
   b) 1940's
   c) Late 1970's
   d) Early 1980's
2. Benefits of a central venous catheter include:
   a) assessment of fluid status
   b) intensive cardiovascular monitoring
   c) increased viability of IV medications
   d) all of the above
3. Which vein is not appropriate for PICC placement?
   a) cephalic
   b) basilic
   c) brachial
   d) external jugular
4. Indications for PICC placement include:
   a) vesicant IV medications
   b) IV fluids with a pH greater than 5
   c) IV fluids with a osmolaity less than 600mOsml
   d) Infusions of medications considered to be vasodilators
5. Which of the following is a contraindication for PICC placement?
   a) patients with chronic or end stage renal failure
   b) patients with chest injuries or burns
   c) patients with increased intracranial pressure
   d) patients with cystic fibrosis
6. Maximal sterile barrier precautions include:
   a) sterile gloves and gowns
   b) face masks and hair covers
   c) full body drapes
   d) all of the above
7. Which of the following is correct regarding care of a PICC?
   a) always flushing the catheter with heparin after use
   b) using a 3ml to infuse medications or aspirate blood
   c) re-infusing the discard sample after obtaining a blood sample
   d) reporting an increase in arm circumference of 3 cm or greater
8. The most common complication associated with PICCs is:
   a) infection
   b) catheter occlusions caused by drug precipitations
   c) thrombus formation
   d) catheter migration
9. Which of the following is not an example of a systemic catheter-related infection?
   a) blood stream infections
   b) cellulites at the PICC insertion site
   c) metastatic abscesses
   d) suppurative thrombophelbitis
10. Suspect a mural thrombus in a patient with a PICC if
    a) the patient complains of numbness of the hands and fingers on the affected side
    b) if there is a change in the arm circumference of the affected arm of 2 cm
    c) the patient has periorbital edema or tearing on the affected side
    d) erythema is noted at the PICC insertion site
11. Causes of non-thrombi catheter occlusion include all of the following except:
    a) drug precipitations
    b) catheter pinch-off syndrome
    c) lipid deposits
    d) phlebitis
12. When using the Phlebitis Scale, which is incorrect?
    a) 1 = no symptoms
    b) 2 = pain with redness and/or edema
    c) 3 = grade 2 + streak formation, palpable venous cord
    d) 4 = grade 3 + purulent drainage
13. Which statement is true regarding migration of tip placement?
    a) never occurs with proper use of a securement device
    b) can be caused by increased intrathoracic pressure from vomiting or coughing
    c) if the catheter is partially pulled out, it may be advanced back into place
    d) catheter migration does not affect the use of the PICC line
14. Proper removal of a PICC includes:
    a) having the patient in a high fowlers position
    b) applying direct pressure to the insertion site
    c) applying smooth, slow, gentle pressure when pulling on the catheter
    d) having the patient deep breath while the catheter is being pulled out

True/False

___15. Most Boards of Nursing consider central line placement, specific to PICC placement, within the scope of nursing practice.
___16. A Midline catheter requires radiographic verification of tip placement before use.
___17. A peripheral IV has a dwell time of 7-10 days.
___18. Vesicants cause a short-lived, usually limited, irritation when extravasation occurs.
___19. The cephalic vein is usually the last choice for PICC placement because its anatomy increases the risk of mechanical phlebitis.
___20. The use of visualization technologies are recommended by the Infusion Nurses Society for the insertion of PICC by nurses.
___21. The inability to draw blood from a PICC is always due to catheter occlusions related to thrombus formation.
___22. Patients with hypercoagulability require daily doses of heparin to help prevent thrombus formation.
___23. The incidence of PICC infections is approximately 0.75 per 1,000 days.
___24. Arm circumference for the purpose of PICC assessment should be measured ½ between the antecubital fossa and shoulder.
___25. Directly after placement, a PICC may be used as long as the catheter flushes easily and there is a blood return.
___26. Chemical phlebitis rarely occurs with solutions infused through a PICC because the infusions exit the catheter at a point of high blood flow and adequate hemodilution.
___27. The most frequent cause of damage to a PICC is caused by lack of attention to or knowledge related to care and maintenance of the catheter.
___28. A Midline is considered a central line versus a peripheral IV site.
___29. If resistance is met on the first attempt at removing a PICC, stop immediately and call the physician.

Evaluation:

1. Were the following objectives met?
   a. Review the terminology associated with vascular access devices. YES NO
   b. Identify the indications and contraindications for PICC placement. YES NO
   c. Describe appropriate care and maintenance for PICCs. YES NO
   d. Explain the complications associated with PICCs. YES NO
   e. Discuss PICC removal. YES NO
2. How
   and evaluation form? _____

Registration Form

Name:_____
(please print clearly)

Address: _____
Street City State Zip

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Email Address: _____

RN or LPN?: RN LPN
ONA Member YES NO ONA Member Number (if applicable):

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A Question of Practice

by Kathleen Morris, ONA Director of Nursing Practice

Answering a nursing practice question is a little like going on a scavenger hunt - looking for the bits and pieces that impact and alter nursing practice.

Happily, some simple, straightforward answers can be provided when the inquiry requires only a quick consultation of state nursing law or administrative rules. For example, if a nurse asks about their obligation to wear a badge identifying their professional status, the Ohio Administrative Code 4723-4-06 (A) clearly states that when a nurse is providing direct patient care, the nurse shall display their applicable title or initials. Notice that this rule does not say anything about displaying the nurse's first or last name, nor does it obligate the employer to provide the identification badge, although many do. It is just as important to recognize what a law or rule *doesn't* say to ensure that preconceived beliefs concerning nursing practice are validated or dispelled.

Every nurse should have some familiarity with their state's nursing law and rule, although it may take time and perseverance to develop a working knowledge of these regulations.

Many times, a question cannot be addressed by consulting nursing law or rules alone. Other health care professionals such as emergency medical personnel may share similar or overlapping scopes of practice and competencies, making it uncertain that either health care profession "owns" a particular practice. Alternately, certain practices which a nurse may be competent to provide may be prohibited unless the nurse also possesses the licensure or certification required of the other profession.

The scope of practice of emergency medical personnel (EMTs) is limited to the community and the emergency department. Inside the hospital, but outside of the emergency department (ED), EMTs lack a scope of practice applicable to acute care. If employed in the ED as ancillary personnel, EMTs may provide care which is normally within their scope of practice with the supervision of a physician or registered nurse. However, if the EMT is asked to perform a procedure or administer a medication that is outside their normal scope of practice, the physician delegation rules and/or nursing delegation rules applicable to unlicensed personnel must come into play.

Another example of scope of practice limitations or overlap occurs when a licensed nurse who is also a licensed EMT can provide intubation when acting as an EMT, but may not be accorded the same scope of practice when employed as a nurse within a hospital setting. In the hospital setting, intubation is largely the purview of physicians or respiratory therapists; in this case, a result of both regulatory language and hospital policy. Remember that a health care facility may adhere to a strict interpretation of regulatory language or may choose to follow a policy which goes beyond the stricture provided in law.

Nurses are often also concerned about the administration of medication by health care professionals with a limited scope of practice, such as cardiovascular technicians or respiratory therapists. If accorded authority to administer medications in law or rule, the number of medications is most often limited and may only be administered under the direct supervision of the physician and only in a particular setting. A health care provider with a limited licensure specific to particular set of tasks or location has no authority to act when they move outside that set of tasks or location. See ONA Nursing Practice Statement 82, *The Role of the Registered Nurse Working with Specialty Practice Personnel* (www.ohnurses.org > Practice > Nursing Practice Statements) for a further discussion of this topic.

Consulting medical, pharmacy, and nursing rule is not an unusual requirement when attempting to answer a nursing practice question.

More often, practice questions may require that the nurse develop personal competency in a heretofore unfamiliar area such as providing light-based therapy or conducting and overseeing cardiac stress tests. When a nurse is going to perform a task beyond basic nursing preparation, the task must be performed according to the regulatory requirements set forth in the Ohio Administrative Code (OAC) 4723-4-03 (D). Preparatory education must "emanate from a recognized body of knowledge". A recognized body of knowledge is most often interpreted to mean a national professional association - but which association?

As you might expect, specialty standards can often be easily found that will address the competency levels and/or professional standards by which a specialty practice should be developed and conducted–the Association of Women's Health, Obstetric, and Neonatal Nurses provides the standards for fetal monitoring, for instance. But standards relevant to a specific practice may not be produced by nursing or may be produced by several other associations. The standards for cardiac stress testing are produced by the College of Cardiology and the American Academy of Sports Medicine. These standards would need to be integrated with the nurse's scope of practice as well as other relevant law and rule. Practice statements from national professional associations may also be used to support the development of competent nursing practice. Further requirements for the nurse performing nursing tasks beyond basic preparation are contained in Ohio Administrative Code (OAC) 4723-4-03.

Standards and or guidelines may sometimes be obtained from other sources such as a regulatory board. The Ohio Board of Nursing has a number of guidance documents that speak to specific areas of nursing practice. These can be accessed at www.nursing.ohio.gov and generally include reference to all applicable law and rule.

Guidelines may also be obtained from the National Guideline Clearinghouse at www.guideline.gov.

Standards, or more likely, practice statements from a number of professional associations may not agree, or there may be no relevant standard at all. Keep in mind that practice is nearly always ahead of the law, the law being a reaction to practice. When statements do not agree it is often helpful to talk to the associations involved, gather regulatory reactions to these statements, and access support within your facility.

A literature review of recent research on the topic may also garner support, or not, for your practice change. A variety of best practice organizations are readily available and, in most cases, have a search function that may be used to hone in on an area of interest.

Consult health care providers who have experience implementing a practice change. Use all these tools to assess the support for a changing practice and to develop a competency level relevant to the practice.

Additionally, ensure institutional support for a new practice that includes policy development and support for garnering the education needed to support competency. Both flexible work schedules and financial support will be necessary to support competency development. It is also useful to gather data and periodically report on the successes and challenges to a new nursing practice–not only mandatory reports that may be required by your employer for quality assurance, but poster presentations, best practice assessments, and patient satisfaction surveys may be useful to other organizations contemplating a similar change to nursing practice.

The requirements of other federal and state laws or accrediting bodies, such as privacy statutes, the Joint Commission, or the Center for Medicare and Medicaid Services will also play a part in sculpting a practice policy and procedure.

Nursing practice changes on a continuous basis as new ideas, technologies, and other resources become available. Before making a change in nursing practice, arm yourself by gathering the input of professional associations, licensing boards, and other stakeholders in the process. Ensure that your employer is supportive and backs this up with appropriate policy, credentialing, and competency development, including financial and scheduling resources as necessary. Finally, make a plan for gathering data, reviewing outcomes, and sharing results at regular intervals as you implement a new practice.

Licensed Practical Nurse Association of Ohio

It's Boom Time for Nursing

by Mary Nash, Chief Nursing Officer, Ohio State University Medical Center

At no other time in history has nursing provided such incredible opportunity for job growth and job security. It's a simple matter of supply and demand. The increase in outpatient procedures, escalating regulation and rise of managed care providers have created a seemingly endless list of roles vital to managing the healthcare system, many of which can only be filled by experienced nurses.

The rise in popularity of outpatient surgery in particular has had a significant impact on the nursing profession at both the ambulatory care facility and hospital levels. When I started in nursing just 30 years ago, outpatient procedures were relatively rare. Now commonplace, they are used for procedures from arthroscopic knee surgery to cancer biopsies and even hysterectomies. According to *eMedicineHealth.com*, more than 60 percent of elective surgery procedures in the United States are currently performed as outpatient surgeries. Health experts expect this will increase to nearly 75 percent over the next decade.

The rise in outpatient procedures continues to create an enormous demand for nurses, and a windfall of opportunity for the nursing profession. Nurses educated on and experienced in operating rooms, biopsies, anesthesia, chemotherapy and radiology, among many other specialties, are in high demand at ambulatory care facilities.

The impact on hospitals has also been significant. While it is true that there are more nurses working than ever before, there are actually fewer nurses acting as hospital bedside nurses, despite the fact that they continue to be in great demand. Because so many procedures are now done on an outpatient basis, those patients that are admitted to hospitals are either having more invasive procedures or they are very sick with complex illnesses. For these patients there is no substitute for a skilled and compassionate nurse.

Emergency rooms and emergency care facilities in particular, often the only option for people who are injured or become sick after 5 p.m., are busting at the seams and in dire need of nurses who are quick thinkers and who thrive on a fast-paced environment.

New opportunities

As the medical profession expands and becomes more specialized, exciting opportunities have arisen beyond the bedside; opportunities that may even surprise established nurses. Tech-savvy nurses who know their way around the computer are in high demand with software development companies and hospital information services departments that design and implement software programs to manage patient data.

Medical equipment and pharmaceutical sales are booming, and companies are looking for experienced nurses to become salespeople. Nurses provide an advantage over other salespeople because they can not only relate to the doctors and facilities to which they sell, but they also have the medical knowledge to understand and explain the advantages of a certain model of hospital bed, IV pump or pain medication.

Save the Date: LPNAO Annual State Convention October 23-25, 2008

Universities also present tremendous opportunities for growth beyond the bedside. A shortage of faculty members to teach high-demand nursing courses is resulting in a great need for experienced nurses who can teach.

Hospitals are hiring nurses to become case workers, who act as the liaison to managed care providers, explaining why a patient is receiving care, obtaining approvals for longer stays, managing records and helping arrange any necessary post-release special services, such as physical therapy.

Other opportunities include new, advanced roles as clinical nurse specialists, nurse midwives, nurse practitioners, home healthcare providers and hospice nurses for terminal and chronic diseases. Nurses are even going back to school to earn MBAs and enter into nurse management.

But before you hand in your notice to pursue one of these exciting opportunities, be sure you have first mastered nursing itself. Potential employers want to know you have a deep understanding of nursing, of the medical profession, of how the healthcare system works, of the various roles that each position plays in medical field–lessons you can only learn through experience.

Education Opens Doors

Hospitals, particularly academic medical centers, continue to provide the most fertile learning grounds for becoming an experienced and skilled nurse. Hospitals affiliated with a university, such as the Ohio State University Medical Center, provide an incredibly challenging and stimulating learning experience by exposing nurses to some of the brightest minds, newest ways of thinking and most cutting edge technologies and techniques in the field. They also offer excellent benefits to continuing your education to expand your options in nursing.

So if you are still in college, apply for an externship to earn credit while you gain valuable experience. If you are fresh out of school, try to get into an internship or residency program that will start you off on the right foot, especially at an academic medical center. If you are already a nurse, constantly seek out opportunities to further your education, regardless of your experience level. An additional certification or graduate degree can open many doors.

Education is the key to opening these doors. You can't have enough. The more knowledge you have, the more opportunities will be open to you.

Multiple Sclerosis: A Multi-faceted Disease

This independent study has been developed to help nurses understand multiple sclerosis. 1.56 contact hours will be awarded for successful completion of this independent study.

This independent study was developed by Barbara Walton, MS, RN, NurseNotes, Inc., Milan, MI. The author has no financial vested interest. There is no commercial support for this independent study.

The Ohio Nurses Foundation (OBN-001-91) is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Expires June 2010.

OBJECTIVES

Upon completion of this independent study, the learner will be able to:

1. Describe the pathophysiology of MS.
2. Identify medication used to treat MS and related nursing implications.
3. Recognize nursing interventions to deal with symptoms of MS.

I. Pathophysiology of Multiple Sclerosis.

It is estimated that 400,000 Americans are affected by multiple sclerosis (MS). It typically strikes between the ages of 20 and 50. Some patients experience a limited number of "attacks" and remain healthy for decades, while other patients deteriorate rapidly from the time of diagnosis.

MS is characterized by the formation of multiple lesions or plaques along the nerve fibers in the brain and spinal cord. MS is thought to be an autoimmune process, but what triggers this process is still unknown. Cells that identify antigens are somehow triggered to interpret one of the components of myelin as foreign. When antigen presenting cells introduce the myelin antigen to T cells, the T cells pass the blood brain barrier and launch an attack on the myelin sheath of the neurons. The attack on myelin activates more T cells and other inflammatory factors such as cytokines are released and more damage is sustained to the myelin. With demyelination, transmission of information via axons becomes more difficult. Besides myelin damage and loss, damage to the axon of the neuron may also result. This is called axonal injury and can yield permanent loss of neural function. There may also be damage and loss of oligodendrocytes. Oligodendrocytes are the cells that produce myelin. If these cells become disabled, there may be a cessation of remyelination. MS is a waxing and waning disease made up of periods of demyelination (exacerbations, attacks or relapses) and remyelination (remissions).

What triggers MS? Factors that trigger MS remain largely unknown, however a number of hypotheses exist. One popular belief is that viruses trigger MS. Blood antibody titers to viruses are elevated in many MS patients. Viruses include varicella zoster, vaccinia, rubella, Epstein-Barr, human herpes virus 6 (HHV-6). The HHV-6 virus antibody is also detected in the cerebrospinal fluid of some MS patients. Being able to identify these viruses may give us insight into the diagnosis and treatment of MS in the future.

Another trigger may be environmental factors. MS occurs more often in countries with a moderate cool climate. The greater distances from the equator, the higher the incidence of MS. There is a hypothesis regarding vitamin D deficiencies or greater need for vitamin D in cooler climates. Because inclement weather, rain and snow keep people indoors, there is a lack of exposure to sunlight, thus a vitamin D deficiency or greater need for vitamin D results. Lack of vitamin D may result in formation of free radicals that in turn leads to myelin damage. Vitamin D also plays a role in stimulating transforming growth factor (TGF beta-1) and interleukin-4 production, which in turn may suppress inflammatory T cell activity. There is evidence vitamin D may actually provide a preventative effect for patients at risk of developing MS.

Genetic risks for MS exist too. MS is seen in greater number in northern European Caucasians and has the lowest incidence in Asians. While no specific genes have been identified, MS is 10 to 50 times higher for persons with an affected relative than a person with no family history. It is suspected that multiple genes, along with environmental factors or a viral trigger are involved.

Types of MS. There are four main types of MS as follows:

- **Relapsing-remitting:** episodes of acute worsening with some amount of recovery and no progression in between. This is the most common form of MS, diagnosed in 85 % of all MS patients.
- **Primary progressive:** continuing worsening of symptoms and loss of function, without any distinct relapses.
- **Secondary progressive:** Starts as relapsing-remitting MS, and converts to a progressive form with gradual loss of function.
- **Progressive relapsing:** progressive disease from the onset, with acute relapses and continuing disease progression.

Another term being used to describe MS in some patient is "benign MS." Benign MS occurs when a patient experiences only one symptom, remains fully functional and there are no MRI changes. The one symptom may be optic neuritis by itself. Malignant MS is a term used to refer to very rapidly progressing disease that leads to severe disability and death within a very short period after onset.

Clinical Signs and Symptoms of MS: This module is titled MS: A multi-faceted disease, because signs, symptoms and deficits vary greatly from patient to patient with MS. Below is a table describing the more common signs and symptoms of MS.

Signs and Symptoms of MS

Symptom	Discussion
Fatigue	90 % of all MS patients report fatigue. Fatigue does not correlate to disease severity or progression.
Depression	The second most common symptom reported by 70 % of all MS patients. Like fatigue, depression does not correlate to disease severity. Suicide is 7.5 times greater in the MS population than general population.
Motor Involvement	May occur early in the disease, especially in patients who present with multiple symptoms. Weakness in an affected limb, progressing to spasticity, hyper-reflexia, clonus, extensor plantar responses and muscle contractures may be present.
Visual Involvement	Blurring or haziness that can evolve to vision loss. Periorbital pain may occur and optic neuritis (inflammation of the optic nerve) is a common presenting symptom.
Sensory symptoms	Can be very vague and difficult for the patient to characterize. May be described as a squeezing, burning, numbness or tingling type sensation. Sensory symptoms may be transient but may progress to loss of dexterity.
Tonic spasms	Brief increases in flexor muscle tone in one or more limbs. Pain is often associated with tonic spasms.
Brainstem symptoms	Symptoms arise from cranial nerve involvement. Cranial nerves originate along the brainstem. Ophthalmoplegia (optic nerve pain) and nystagmus (rapid eye movement side to side), facial numbness, weakness or pain (trigeminal neuralgia) may occur.
Cerebellar involvement	Intention tremors, which can become disabling are frequently seen. Ataxic gait and truncal ataxia, dysarthria (difficulty forming words) and scanning speech may be seen. Ataxia is the inability to coordinate muscles to complete a voluntary activity.
Genitourinary symptoms	Urinary urgency, frequency, incontinence, hesitancy and retention and urinary tract infections may be seen at any time during the course of the disease. Constipation is also a common problem.
Cognitive deficits	40 to 60% of patients with MS will elicit some degree of cognitive impairment. Short term memory loss, being easily distracted, inability to concentrate, difficulty managing complex tasks and confusion may be seen.

II. Diagnosis and Treatment of MS

Diagnosis of MS. MS is usually suspected based on the patient's symptoms. Symptoms highly suggestive of MS include gait disturbances, optic neuritis, persistent double vision, and/or numbness. These symptoms may occur periodically, then resolve and be absent for months or years. It is important to take a comprehensive history of the patient to include not only symptoms, but also family history, exposure to viruses and environmental exposure. Once MS is suspected, further diagnostic tests should be ordered to confirm or rule out the diagnosis. Other tests include:

Magnetic Resonance Imaging (MRI) scans will reveal lesions or plaques in the white matter that depicts demyelination. MRI's are also helpful in tracking the progression of the disease. Gadolinium is often used to enhance the view of MRI's. Gadolinium will highlight new or active lesions that may come and go. Lesions detected without gadolinium represent more severe and permanent tissue loss.

Lumbar Puncture: may reveal the presence of specific antibodies as well as an excess of inflammatory proteins.

Visual Evoked Potentials (VEP): demonstrate a reduced transmission of impulses across nerve fibers due to demyelination. VEP's are most sensitive to MS related damage.

Diagnosis of MS is confirmed when patients demonstrate lesions separated in time and space, i.e., more than one lesion in more than one location occurring at more than one point in time.

Treatment of MS: There is no cure for MS, thus treatment is aimed at three areas to include: a) treatment of relapses, b) disease modification and c) symptom management.

Relapse Treatment: A relapse is defined as new or worsening neurological symptoms greater than 24 hours in duration. Relapses usually evolve over a period of 1 to 7 days, plateau for several weeks and resolve to some degree over weeks to several months. Some patients may experience a *pseudorelapse*, which is a worsening of symptoms due to concurrent illness, fever or infection. It is important to distinguish a true relapse from a pseudorelapse. Nurses should question patients about cold and flu symptoms, infections, fever, chills, aches, pains, urinary urgency, burning on urination, etc. to ascertain the difference.

Once it is determined the patient is undergoing a true relapse; the usual treatment is high doses of glucocorticosteroids either orally and/or intravenously. It is felt glucocorticosteroids hasten the resolution of the acute symptoms of a relapse, but do not alter the course of the disease. A common regimen is methylprednisolone 1gm/day IV for 3 to 5 days followed by an oral prednisone taper. It is important for nurses to teach patients about the side effects of steroid therapy. Side effects include a metallic taste in the mouth, weight gain, restlessness, mood swings, insomnia, and stomach upset. Some patients may experience psychosis or blurring vision, which may be very upsetting to the patient. Side effects from long-term use of steroids may include cataracts, GI bleeding, diabetes, acceleration of atherosclerosis, and osteoporosis. Because of the seriousness of the long-term side effects, infrequent and short-term courses of therapy are the optimum. Patients requiring long-term steroidal use must be monitored for the development of side effects.

Disease Modification: In 1993, with the introduction of interferon therapy, treatment for MS changed dramatically. Interferon beta-1b (Betaseron®) was approved in 1993 for treatment of ambulatory patients with relapsing-remitting MS. In 2003 Betaseron® was approved for use in patients who had progressed to secondary progressive MS. In 1996 Interferon beta-1a (Avonex®) was approved for use with patients experiencing their first clinical episode and exhibited MRI changes consistent with MS. In 2002, another interferon-beta 1a (Rebif®) was approved for relapsing forms of MS.

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How interferons work: In MS it is thought that inflammatory T cells migrate to the central nervous system and are reactivated. Upon reactivation, cytokines are released that begin to damage myelin and axons. Interferons are thought to interfere with the initial stimulation of the T cells and preserve the integrity of the blood brain barrier, thus preventing the migration of the T cells into the central nervous system. Hence the name interferon, as they "interfere" with this process. Below is a table describing the use of each of the interferons.

Drug	% Reduction in Relapse	Dose, Route & Frequency Administered	Special Considerations
Interferon-beta 1b Betaseron®	31%	250 mcg Subcutaneous Every other day	May be used with an auto injector. Requires reconstitution prior to injection.
Interferon-beta 1a Avonex®	32 %	30 mcg Intramuscular 1 time per week	Requires refrigeration Available in a pre-filled, pre-mixed syringe.
Interferon-beta 1a Rebif®	32 %	22 to 44 mcg Subcutaneous 3 times per week	Available in a pre-filled, pre-mixed syringe. May be used with an auto injector. Requires refrigeration.

Side effects of interferons are similar. Many patients experience flu-like symptoms with the first few injections. These include fever, malaise, muscle achiness and stiffness. Usually these symptoms dissipate with time. If they do not, adjusting to a lower dose and gradually increasing to the desired dosage may help. Also taking the injection in the evening and using antipyretics may be helpful to many patients.

Another side effect of interferons is injection site reaction, particularly with subcutaneous injections. injection site reactions may appear as redness, pain, lumps and itching. Intramuscular interferon may produce bruising and discomfort. Rarely does skin breakdown or tissue necrosis occur. Be sure to re-evaluate the patient's injection technique, as that may be the cause of the injection site reaction. Applying ice to the injection site just prior to and after the injection may reduce any discomfort. Some patients find using a new needle just prior to injecting the medication helps. Patients who experience itching at the site may find over the counter hydrocortisone ointments of benefit. Allowing refrigerated medications to come to room temperature just prior to injection may also reduce local injection site reactions.

Severe liver damage may occur with interferon usage. It is imperative the patient have a baseline CBC and liver profile done prior to beginning therapy, repeat these tests after the patient has been taking the medication for one month, and continue re-testing every three months thereafter.

Other side effects of interferons include menstrual irregularities and possible depression. It is unclear if interferons cause depression or whether it is part of the MS disease process. Depression is common in individuals with MS. Be sure to include emotional assessments when evaluating an MS patient, changes in mood and behaviors may require anti-depressant medications.

Another medication used to modulate MS is glatiramer acetate (Copaxone®). Copaxone® is a not an interferon, but a synthetic compound of four amino acids that are the building blocks for proteins that are found in myelin. Patients taking Copaxone® have 33% reduction in relapses. The medication is administered via daily subcutaneous injection, must be refrigerated, is available in pre-mixed, pre-filled syringes and can be given via auto injector. Patients taking Copaxone® may experience a post injection reaction that presents as tachycardia, sweating, anxiety, dyspnea, faint feeling, flushing and/or nausea. These symptoms will subside rapidly, usually in 15 to 20 minutes, but can be very anxiety provoking for the patient. Be sure to educate the patient about post injection reactions. Advise the patient to stay calm and remain seated. If the symptoms do not resolve within 20 to 30 minutes, the patient should be taught to contact the local emergency services.

As with the interferons, local injection site reaction may also occur with Copaxone®. Using the same nursing interventions will be of benefit as well. In addition, patients taking Copaxone® may experience lipoatrophy with repeated injections. Be sure to teach the patient to rotate injection sites on a routine basis.

As with any medication regimen, compliance is always an issue. It is important for patients and families to understand the interferons and Copaxone® are not "miracle cures." Patients taking these medications will still experience relapses, so they need realistic education about what these drugs can and cannot do. Assisting the patient to manage side effects of flu-like symptoms, local injection site reactions and post injection reactions as well as building a trusting relationship with the patient will all contribute to ongoing treatment compliance. Making appropriate referrals for emotional and spiritual support should also be instituted.

For patients with worsening secondary-progressive, progressive-relapsing or relapsing-remitting MS, the FDA has approved mitoxantrone (Novantrone®) for use. Novantrone® is a chemotherapy agent with cytotoxic effects. The overall effect of this medication is to decrease the number of white blood cells, particularly T cells, thereby diminishing the immune response and halt the destructive process to the myelin. Because of its cytotoxic effects, Novantrone® is used for short-term therapy. Side effects include nausea, hair loss, urinary and/or upper respiratory tract infections, menstrual disorders and cardiac toxicity. Cardiac toxicity usually occurs with higher doses of the medication typically given to cancer patients. Lower doses are typically used with MS patients. However Novantrone® should only be used in patients with normal cardiac function and cardiac monitoring is required.

Symptom Management: Because MS is such a multi-faceted disease and presents itself in such a variety of ways, specific symptom management will be discussed in the next section "Special Considerations". As the reader will see, there are many nursing interventions we can use to assist the MS patient and their families.

Special Considerations regarding MS

Psychosocial Issues and MS: The diagnosis of MS is upsetting, to say the least, for most patients and their families. Patients face the unknown; unpredictable course of this disease where neurological symptoms can fluctuate on a day to day basis, and can become worse with something as simple as elevated body temperature or fatigue. Even with the disease modulating medications, patients still face the symptoms that accompany MS. Depression, helplessness and hopelessness are common among the MS population and requires a high level of empathy and unconditional regard from healthcare professionals. Some of the aspects to be assessed by nurses and interventions are as follows.

Mood: Observing a person's body language, tone of voice, expression of pessimism versus optimism, fear, anger, anxiety and depression are all associated with mood. Findings will indicate whether a patient feels in control of the situation. Assessing the patient's grooming, posture, facial expressions, the spring in their step, patterns of sleeping, eating, sexual functioning and adherence to medication regimens can give the nurse valuable insights to the patients emotional status.

Self-esteem, self-efficacy and self-care: Self-esteem reflects how adequate or worthwhile the person feels. Self-efficacy means the person believes he/she is competent and capable of completing tasks, such as self-care. Assessing these areas will give the nurse insight into the person's ability to cope with this illness. High levels of self-efficacy can be directly correlated to a patient's willingness and ability to adhere to treatment modalities. Besides assessing the items listed in the "mood" section, inquire about exercise regimens, stress management techniques, dietary supplements and complementary therapies a patient may be using.

Relationships: Social support has been well documented as a predictor of coping and improved compliance. Assess the patient's support network of family and friends. Remember, just because the person has a spouse, it does not mean that spouse is necessarily supportive. Help the patient identify key players who would be or are supportive.

Lifestyle changes: Persons who perceive themselves as being in control of situations, or who regularly assume leadership roles, have more difficulty coping when MS affects their physical and cognitive abilities. Loss of mobility, independence, employment, and enjoyment from activities can all contribute to lifestyle changes and social isolation. Assess the patient by asking questions such as "what is your role in your family?" or "how do you see yourself in the workplace?" Lifestyle assessment should also include means of transportation, hobbies, past-times, financial concerns, insurance concerns, disclosure of MS to family members, friends, or co-workers.

Hope: Hope helps people cope. Hopeful attitudes improve a person's self-esteem and well-being, creating a synergistic effect with treatment. Hopeful people are able to verbalize goals, are motivated to achieve their goals, expect to accomplish their goals and can make alternative plans in the event goals are not met. People with MS, who are hopeful, know that one day they may be bothered by symptoms, but the next few days hold the possibility the symptoms will resolve. Often optimistic people will have supportive and reciprocal relationships; feel connected to a Higher Being or have a sense of spirituality, use humor, use stress management techniques and may use other modalities such as yoga or meditation. Be sure to inquire about these when assessing a patient's sense of hopefulness.

Psychosocial Interventions include:

- Educate the patient and family about the disease, its course, signs and symptoms and treatment modalities.
- Encourage the patient to maintain optimal health and wellness. We do with so many patient groups, but exercise programs, limiting or eliminating alcohol and tobacco use, maintaining ideal body weight, and stress management techniques can all help preserve conditioning and promote a sense of well being. It may also give a sense of control to the patient.
- Help them identify and manage symptoms such as urinary and bowel dysfunction, mobility problems, sexual dysfunction, pain and fatigue.
- Assessment and counseling for depression. Be watchful for feelings of anger and hostility, as this is how depression may manifest itself.
- Patients may require medications such as the selective serotonin re-uptake inhibitors (SSRI's), or other anti-depressant medications. Effexor®, Paxil®, Prozac®, Wellbutrin® or Zoloft® may be used.
- Involve family, friends in the plan of care.
- For some patients, looking ahead to the uncertainty of the future is too painful. Reframing to look at what is hopeful for the moment may be beneficial, i.e., focusing on the positive, a happy memory, or a beautiful day.
- Advocate for the patient. Nurses can play instrumental roles in helping the MS patient deal with insurance companies, employers, write letters to obtain parking permits, promote life planning, and use of legal and medical advance directives.
- Make appropriate referrals to other health care professionals to include occupational, speech, and physical therapies. By maintaining solid relationships with other health care professionals, nurses are better equipped to make good referral for patients. Patients may require referrals to urologists, gastroenterologists, psychiatrists, ophthalmologists, nutritional support, home care, pain specialists, social services, or equipment and supply sources. Refer patients to the local chapter of the National Multiple Sclerosis Society for more information, news on research, and peer support. The National Multiple Sclerosis Society may be found in the phone book or at the National Multiple Sclerosis Society; 1-800-FIGHT MS (1-800-344-4867); www.nmss.org

Mobility and MS: Mobility limitations can affect a person's vocational and recreational activities, one's self-esteem and quality of life. Factors that affect mobility are weakness, balance and coordination

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impairment, sensory and visual disturbances, fatigue, cognitive deficits, and depression. Most mobility problems are due to a combination of factors. It is important to assess the patient's mobility. This can easily be done as you observe them undertaking activities of daily living in a home setting, to watching them enter the clinic setting. Watch them as they transfer to the examination table, rise from a chair, or sit in a chair. Inquire about falls or near falls they may be experiencing. If falls do occur, under what circumstances, and how do they manage the fall? What seems to trigger and alleviate mobility problems? While on a long walk do they notice a foot starts to drag, and with rest, it resolves? Do they report less of an ability to ambulate when feeling hot or fatigued? Do they use canes, walkers, handrails, grab bars, or other assistive devices? Just because you don't see them using such devices, it doesn't mean they don't. They may just use them as needed.

Interventions to improve mobility include:

Strengthening exercises such as progressive resistive exercises ranging from isometrics to resistive tubing to weight training. This will help address overall deconditioning and decrease weakness. Note: if the patient reports an abrupt increase in weakness that does not resolve, they should be referred to their physician, as it may be infection, illness or relapse that requires further treatment.

Use of assistive devices: grab bars, canes, walkers, handrails, wheelchairs, or scooters may all improve mobility and promote safety. Referral to physical and occupational therapies is helpful for evaluation of specific devices that would most benefit the patient.

Balance problems can be addressed with vision techniques that include looking ahead, focusing on a target. Another technique called vestibular stimulation uses rocking motion from therapeutic balls or tilt boards, hammocks or swings to restore balance. The services of physical and/or occupational therapist should be utilized.

Spasticity problems are often reported as a "stiffness". Stretching exercises may be effective in alleviating mild spasticity. For more severe spasticity medications such as baclofen, tizanidine, (Zanaflex®), diazepam, (Valium®), clonazepam, (Klonopin®), dantrolene sodium, (Dantrim®), or gabapentin (Neurontin®), may be used. If oral medications prove to be ineffective, intrathecal baclofen, delivered via a pump implanted under the skin, can be used to deliver a steady, lower dose of the medication. If spasticity involves small muscle groups, botulinum toxin Type A (Botox®) may be used. This will weaken the muscle, lessening contraction for up to three months. Patients who have had severe spasticity may require phenol injections or surgical nerve ablation. If contractures develop, these may have to be surgically corrected.

Tremors in MS patients can range from aggravating to debilitating, and indicate cerebellar involvement. Tremors may impede mobility and result in falls. Medications may have to be used to include clonazepam, (Klonopin®), primidone, (Mysoline®), propanolol, (Inderal®), isoniazid, ondansetron hydrochloride, (Zofran®), and anti-epileptic drugs.

Driving is certainly a form of mobility and can become impaired due to muscle weakness, spasms, and/or an increase in cognitive problems or emotional problems. It may be helpful to interview the family members regarding driving abilities, as the patient may not recognize problems or may be hesitant to reveal them. Some patients may have to relinquish driving and rely on public transportation or allow others to do the driving, should they become unsafe.

Fatigue, Pain and MS: These are often characterized as the invisible symptoms of MS. Other invisible symptoms include paresthesias, cognitive dysfunction, depression, and mood changes. Often patient neglect to mention these problems, or because we cannot "see" these problems, we neglect to inquire about them.

Fatigue is defined as a subjective lack of physical and/or mental energy perceived by the patient to interfere with usual or desired activities. It is the most common symptom of MS and yet is not understood. Fatigue is a primary cause of unemployment and significantly increases a person's degree of impairment and disability. Fatigue also contributes to reduction of self-esteem and control over the illness. Fatigue happens to everyone at some point in time or another for a variety of reasons. However research has identified characteristics unique to MS induced fatigue. These characteristics are:

- Comes on suddenly
- Prevents sustained activity
- Is worsened by heat
- Interferes with responsibilities
- Interferes with physical functioning
- Causes frequent problems

Fatigue can appear or markedly increase during relapses and improve with remission. An increase in body temperature can greatly increase fatigue, particularly when the weather is warm or the patient takes a hot shower, has a fever or has participated in strenuous exercise or activity. As body temperature returns to normal, the fatigue generally lessens.

Evaluating fatigue should include assessing for

- Physical deconditioning due to sedentary lifestyle.
- Mobility impairment: Patients with MS gradually require increasing amount of energy to perform activities of daily living, which in turn results in more fatigue.
- Disturbed sleep: common in the MS patient due to periodic limb movement, nocturia, and pain from spasticity or depression.
- Medications: anticholinergics, analgesics, anti-spasticity drugs, anti-epileptic drugs and interferons can produce sleepiness and increased fatigue.
- Co-existing conditions. Patients with MS are not immune to heart or lung disease, diabetes or other diseases that can contribute to fatigue.

Management strategies for fatigue may include

- Personal exercise programs to improve strength, tone and aerobic conditioning. Exercise programs can improve fitness, arm and leg strength, bladder and bowel control, reduce depression, fatigue and anger.
- Use appropriate rehabilitation strategies such as mobility aids, assistive devices and energy conservation. Early consultation with occupational or physical therapy is essential.
- Medication adjustments in dosing and/or scheduling may help reduce sleepiness and fatigue.
- Fatigue due to depression may respond to Prozac or other anti-depressant drugs.

Primary MS fatigue may respond to these medications:

- Amantadine (100 mg bid) is an antiviral agent and a dopamine agonist that has been shown to reduce fatigue in MS patients.
- Modafinil (Provigil®) (100 to 200 mg qd) is a wakefulness-promoting agent and may help reduce feelings of fatigue.
- Pemoline (Cylert®) (75 mg qd) is a central nervous system stimulant that may be helpful for short-term treatment of MS related fatigue.
- Aerobic exercise: has been shown to improve cardiovascular fitness, strength, and health status and reduce fatigue.
- Cooling therapy: such as air conditioning or cooling vests can reduce fatigue in heat sensitive MS patients.
- Energy conservation techniques such as time management, use of mobility aids, and assistive devices can help curb fatigue.

Pain: First identified by Charcot in 1872, we know pain is present in 45 to 65 % of MS patients. As much as 32% of these patient report unremitting pain for at least one month. Types of pain experienced by MS patients include.

Acute Pain Syndromes:

Trigeminal neuralgia: 400 times more common in MS patients than the general population. Experienced as a sharp searing facial pain, bilaterally, that can be precipitated by chewing, shaving or tooth brushing. This usually responds to anticonvulsant medications, but may require surgical intervention.

Painful tonic spasms: Simple flexor spasms, brought on by movement or noxious stimuli usually respond to anti-spasm medications. Brief spasm of upper and lower extremities sometimes called tonic spinal cord seizures, may occur several times per day and usually respond to anticonvulsant medications.

Lightening-like pain: Intense shooting pain traveling through any part of the body, often precipitated by movement. Generally responds to carbamazepine (Tegretol®), phenytoin (Dilantin®) or gabapentin (Neurontin®).

Lhermitte's sign: Occurs in any disorder that causes damage to the posterior columns of the cervical spinal cord. Sensation of electric shock that travels down the neck, typically in response to movement of the head and neck, it may radiate down the extremities. Typically responds to carbamazepine (Tegretol®).

Optic neuritis: sharp, knife like pain, or a dull deep ache or sense of pressure above or behind the eye. Results from inflammation and demyelination around the optic nerve and will subside with steroid treatment.

Chronic Pain Syndromes include:

Dysesthetic extremity pain: most common syndrome, described as a burning or aching pain, occurring most often in the legs. Thought to be due to demyelination in the posterior columns of the spinal cord. Pain is usually worse towards the end of the day. Responds better to phenytoin (Dilantin®) and gabapentin (Neurontin®) than carbamazine (Tegretol®).

Band-like pain in torso or extremities: caused by a lesion in the spinal cord, characterized by intense pressure or squeezing in a girdle-like pattern. May respond to gabapentin (Neurontin®) and phenytoin, (Dilantin®), benzodiazepines may be helpful in resistant cases.

Back pain and radiculopathy: may occur due to orthopedic problems, musculo-skeletal changes due to impaired mobility or demyelination. Physical therapy and non-steroidal anti-inflammatory drugs may be used first, followed by gabapentin (Neurontin®) or phenytoin (Dilantin®). Tizanidine (Zanaflex®), baclofen (Lioresel®), clonazepam (Klonopin®) or tramadol, (Ultram®) may also be used.

Elimination Dysfunction and MS: Patients with MS can experience bladder and/or bowel dysfunction up to and including incontinence. Symptoms may include urgency, frequency, hesitancy, incontinence, nocturia, incomplete emptying or urinary tract infections.

Bladder dysfunction: For urination to occur, the bladder detrusor muscle contracts to expel the stored urine and the sphincter muscle relaxes and opens, permitting the free flow of urine. In patients with MS, the neural connections controlling these muscles can be affected resulting in failure to store urine, failure to empty urine or a combination of these problems.

Failure to store urine: results due to hyper-contractility of the detrusor bladder muscle. Patients experience urgency, frequency, nocturia, small post void residuals, and leakage or incontinence. Teach the patient to avoid substances such as caffeine, aspartame and alcohol, as these may aggravate the problem. Timed or scheduled voiding, may be helpful. Usually the bladder is ready to empty 1 to 1½ hours after drinking a liquid. Patients may benefit from anticholinergic/antimuscarinic drugs such as desmopressin nasal spray or tablets, tolterodine (Detrol®), oxybutynin (Ditropan®), or imipramine (Tofranil®).

Failure to empty occurs when the bladder attempts to empty unsuccessfully due to the inability of the sphincter to relax, thereby obstructing flow and/or a weakened detrusor muscle. Symptoms include urgency, frequency, hesitancy, a sense of incomplete emptying, large post void residual volumes, and frequent urinary tract infections. Intermittent catheterization is a commonly employed intervention. Intermittent catheterization is generally performed every four to six hours, using a clean technique. Patients wash the catheter with soap and water and store the catheter in an air-permeable container. Be sure to assess the patient's manual dexterity and ability to perform this procedure, as they may require assistance. In some instances a continent vesicostomy may be surgically created. This provides a stoma at naval level that allows for bladder catheterization. Some patients may need an indwelling urethral or supra pubic catheter placed. Catheters should be changed on a monthly basis. Patients may experience spasms of the detrusor muscle, which in turn can cause leakage of urine around a catheter. If such leakage occurs, it is not an indication the patient needs a larger catheter, but consider changing the catheter more frequently and adding medication to prevent bladder spasms. Routine urine analysis in patients with indwelling catheters will reveal bacterial growth, usually from contamination. This does not constitute a urinary tract infection. However, if the patient is symptomatic, appropriate antibiotic therapy should be initiated.

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Combined bladder dysfunction: results in the detrusor muscle working in opposition to the external sphincter muscle. This is sometimes called detrusor-sphincter dyssynergia. Symptoms are the same as previously mentioned. Interventions include intermittent catheterization and medications to relieve spasms.

Bowel dysfunction is also a common symptom of MS. Constipation and incontinence are two of the most distressing problems for patients.

Constipation: is defined as two or fewer bowel movements per week, or difficult elimination of stool. Due to the neural disruption that stimulate peristalsis of the gut, motility is slowed, thus more water is reabsorbed, resulting in hard, constipating stool. This problem may be worsened when patients, in an effort to control urinary urgency, frequency or incontinence, avoid or reduce their fluid intake. Once stool enters the rectum, again due to neural disruption, there may be a lack of rectal sensation that in turn interferes with normal defecation. Further, medications, lack of mobility and exercise, weakness, spasticity and fatigue may potentiate the problem.

There are many interventions for constipation, with prevention being key. Encouraging the patient to take in 1½ to 2 quarts of fluid each day, a high fiber diet (20 to 30 grams per day) and establishing regular meal times may all help. Fiber can be added easily to diet by consuming fruits, vegetables, cereals and grains. However if adding fiber results in gas, bloating and/or diarrhea, try adding these foods gradually. Peristalsis is strongest 30 to 45 minutes after a warm meal or beverage. Timing defecation after meals may be helpful, with correct positioning on the toilet. Have the patient sit on the commode; bend forward with knees elevated slightly higher than the hips. Bulk forming agents, (Metamucil®) or stool softeners may be added. Rectal stimulants or suppositories can provide stimulation and lubrication to promote elimination of stool.

Incontinence of stool may result due to overflow from constipation, diminished rectal sensation, sphincter dysfunction, medications or diet. Many of the interventions described in the constipation section will prove helpful in dealing with incontinence. Avoiding spicy foods, alcohol, caffeine, fatty foods or other dietary triggers may decrease the number of incontinent episodes. A daily glycerin suppository may help empty the bowel and avoid accidents.

Sexuality and MS: While not all patients may feel comfortable discussing intimate details, it is important for nurses to include this in their assessments of MS patients. By giving information regarding sexuality to the patient either verbally or via written pamphlets, it may provide an invitation for the patient to approach the topic, once a trusting relationship has been established. Be sure to include significant others in giving this information. It is important for both the patient and significant other to realize the changes in sexuality they are experiencing may be due to the progression of the disease or effects of medications, versus thinking it is a reflection of problems in the relationship. While MS can and often does bring about changes in sexual function, it usually does not effect fertility. Patients and significant others may also benefit from information regarding family planning and contraception. Sexual problems in MS are divided into primary, secondary and tertiary types.

Primary Sexual Dysfunction: occurs due to neurological damage caused by MS that *directly* impairs sexual feelings and/or response. This may present itself as decreased or absent libido, altered genital sensations such as numbness, painful intercourse, or aversion to touch due to heightened sensitivity, decreased frequency or intensity of orgasms, erectile dysfunction, decreased vaginal lubrication, decreased clitoral engorgement and decreased vaginal muscle tone. Interventions that may prove helpful include the following.

Decreased or absent libido is a common complaint among women. When lesions of the central nervous system impair libido, there are numerous sensory, perceptual and emotional pathways that may remain intact. Experiencing pleasure is possible in the absence of libido, thus pleasure may be relearned. Kegel exercises are helpful in maintain muscle tone. Using sexual aids such as vibrators may be of benefit. Some medical supply companies supply these aids. The National Multiple Sclerosis Society references two web-sites that sell these products and discretely package their products for shipment. These sites are www.tootimid.com and www.intimacyinstitute.com. Using adequate water-soluble lubrication with K-Y® jelly, Replens® or Astroglide® packets may make sexual stimulation and/or intercourse more comfortable. Scheduling time for intimacy, when energy levels are the highest for the patient may be helpful.

Medications used to treat MS may interfere with sexual function. Postponing a dose of medication or timing it to minimize the effect on lovemaking may be all that is needed. Patients should discuss medication scheduling and any changes with their healthcare provider before doing so.

Erectile dysfunction is the primary complaint among men. Medical management includes the use of sildenafil citrate, (Viagra®), vardenafil HCl, (Levitra®) and tadafil, (Cialis®). These medications are taken 30 to 60 minutes prior to intercourse and many men find they work well for them. Crushing the medications can make them work faster. Levitra® and Cialis® are not to be taken more than one per day. Patients with cardiac histories taking nitrate medications should not use these drugs. A significant drop in blood pressure may occur leading to myocardial or cerebral infarct. Other interventions may include the use of Yohimba bark and ginseng. These herbals have been reported to increase erectile functions, but patients should consult with their physicians before using these substances as they may interfere with other medications. Testosterone injections may be given in conjunction with herbal supplements. When first line therapy fail, the patient may use intracavernous injections of alprostadil (Caverject® or Prostin VR®). Prolonged erection (priapism) is a serious concern that may occur with intracavernous injections and requires prompt treatment. MUSE®, which stands for, medicated urethral system for erection is comprised of alprostadil (Caverject® or Prostin VR®) in a soft pellet suppository that is inserted into the penis. External vacuum erection therapy (ErecAid®), is a plastic cylinder that is attached to a vacuum pump. Blood flows into the penis creating an erection, a plastic ring is then slipped over the penis to maintain the erection. It is imperative patients receive education regarding the proper use of these devices. Penile prosthesis is another permanent option for patients in which a malleable semi-rigid rod with inflatable cylinders is surgically implanted.

Secondary Sexual Dysfunction occurs as a result of MS related physical changes or side effects of medications that *indirectly* affect sexual feelings and/or response. This may include bladder or bowel dysfunction, fatigue, non-genital sensory paresthesias that reduce comfort, spasticity, decreased non-genital muscle tone, weakness that interferes with sexual activity, cognitive impairments, tremor or pain. Once identified, many of these symptoms can be eased or alleviated. Interventions that may prove helpful include the following.

Bowel and bladder dysfunctions are often concurrent with sexual dysfunction since there are many shared nerve pathways. Patients become focused on the fear of "having an accident" than on the enjoyment of lovemaking, or may avoid intimacy all together. How to cope with an indwelling catheter during lovemaking becomes a commonly asked question. Women can tape the drainage tube to the abdomen to prevent pulling or pressure. Side lying positions, using pillows for support may be helpful. Emptying the drainage bag, using a longer drainage tube, and taping connections will help prevent any leakage. Disconnecting the drainage bag and temporarily clamping the catheter may also be done after first consulting with a healthcare professional. Men can then fold the catheter over the penis and place a condom over both the penis and the catheter. Restricting fluids for a few hours before anticipated sexual activity may help prevent leakage of urine. Men can use condoms to collect and cope with small amounts of urine leakage. Adding padding to the bed can make the worry of incontinence dissipate. Bowel scheduling techniques previously discussed and emptying the bladder before sexual activity can also ease concerns regarding accidents.

Cognitive changes may be perceived as a loss of love or interest in a partner. Cognitive impairment can have a negative impact on the patient's ability to concentrate and attention. One suggestion to minimize this problem would be to create an environment with minimal distractions. Should a distraction occur, develop some strategies to refocus and resume sexual activity.

Pain, fatigue, spasticity and tremors can certainly impact pleasure and performance. Using energy conservation techniques, positioning and previous comfort measures discussed should prove beneficial.

Tertiary Sexual Dysfunction refers to psychological, social and cultural issues that interfere with sexual feelings and/or response. Depression, grief, demoralization, changes in body image and self-esteem, performance anxiety, family and social role changes may all be manifestations of tertiary sexual dysfunction. There may be guilt felt by the patient as they are no longer to provide financially or "carry their weight" in the traditional family role they had. Caregivers may feel overwhelmed with all their added responsibilities and may resent having to switch roles from caregiver to lover. Treating emotional distress with the methods discussed in the psychosocial section of this module may lead to significant improvement in sexual satisfaction.

Caring for MS patients is challenging, but by educating oneself, the patient can in turn be educated and prepared to deal with the multiple facets of this disease.

References Available Upon Request

Multiple Sclerosis: A Multi-faceted Disease Post Test and Evaluation Form

DIRECTIONS: Please complete the post-test and evaluation form. There is only one answer per question. The evaluation questions must be completed and returned with the post-test to receive a certificate.

Name:_____ Final Score:_____

Please indicate whether the answer is True or False

___ 1. MS strikes more Asian between the ages of 20 to 50.
___ 2. Cytokines are released and cause more damage to myelin in the autoimmune process of MS.
___ 3. Myelin is the only tissue damaged in MS.
___ 4. Viruses are not considered to be a trigger in MS.
___ 5. Vitamin D may provide a preventative effect for patients at risk of developing MS.
___ 6. Primary progressive MS is the most commonly diagnosed form, occurring in 85% of the patients with MS.
___ 7. Relapsing-remitting MS may develop into the secondary progressive form of MS.
___ 8. Tonic spasm are the most common symptom of MS.
___ 9. Depression occurs at no greater incidence in the MS population than the general population.
___ 10. It is very easy for patients to characterize sensory symptoms of MS.
___ 11. Ataxia is the ability to coordinate muscles to complete voluntary activities.
___ 12. MRI's lumbar punctures and visual evoked potentials are helpful tools to diagnose MS.
___ 13. Treatment of relapses generally consists of rest and non-steroidal anti-inflammatory agents.
___ 14. A pseudorelapse is treated with the same measures as a relapse.
___ 15. Side effects of steroid use may include weight gain, restlessness, mood swings, and stomach upset.
___ 16. Interferon therapy did not really change the treatment for MS.
___ 17. Interferons interfere with T cells crossing the blood brain barrier.
___ 18. Betaseron® is administered subcutaneously, once a week and must be refrigerated.
___ 19. Rebif® and Avonex® require refrigeration.
___ 20. Side effects of interferons include flu-like symptoms that will subside over time.
___ 21. Applying ice to the injection site and allowing the medication to come to room temperature may help reduce injection site reactions caused by interferons.
___ 22. Liver damage is not an issue with interferon therapy.
___ 23. Copaxone® is another interferon that provides amino acids and reduces relapses.
___ 24. Post injection reactions related to Copaxone® that present as tachycardia, sweating, anxiety, dyspnea, faint feeling, flushing and/or nausea, should subside in 15 to 20 minutes.
___ 25. Compliance is not an issue with disease modulating drugs because they cure MS.
___ 26. Self-efficacy means a person believes they are competent and capable of completing tasks.
___ 27. Patients who perceive themselves as being in control and who regularly assume leadership roles will have an easier time coping with MS.
___ 28. Lifestyle assessment should include means of transportation, hobbies, pass-times, financial and insurance concerns and the disclosure of MS to friends, family and co-workers.
___ 29. Hopeful attitudes may contribute to creating a synergistic effect with treatment.
___ 30. Encouraging the MS patient to maintain optimal health with a healthy lifestyle can help preserve conditioning and promote well being.
___ 31. Depression may present as expressions of anger and hostility.
___ 32. Nurses cannot advocate for the MS patient.
___ 33. By maintaining solid professional relationships with other health care professionals, nurses are no better equipped to make good referrals for patients.
___ 34. Most mobility problems are due to a combination of factors.
___ 35. Patients will not be hesitant to reveal driving problems, so there is no need to involve family members.
___ 36. There are six characteristics that have been identified that are unique to MS induced fatigue.
___ 37. Patients with MS are immune from other conditions such as heart or lung disease or diabetes.
___ 38. In some patients with MS, heat or increase in body temperature can greatly increase fatigue.
___ 39. Pain is present in 45 to 65% of MS patients and may present as an acute or chronic syndrome.
___ 40. Bladder dysfunction is categorized as failure to store urine, failure to empty and combined dysfunction.
___ 41. Intermittent catheterization is taught as a sterile procedure.
___ 42. Some patients, in an effort to control urinary incontinence, decrease fluid consumption and this may result in constipation.
___ 43. Giving patients written materials may provide an invitation to discuss sexuality issues.
___ 44. By educating ourselves, we can in turn educate patients and help prepare them to deal with the multi-facets of MS.

Evaluation

1. Were the following objectives met?
   A. Describe the pathophysiology of MS. YES NO
   B. Identify medications used to treat MS and related nursing implications. YES NO
   C. Recognize nursing interventions to deal with symptoms of MS. YES NO

2. How
and evaluation form? _____

Registration Form

Name: _____
(please print clearly)

Address: _____
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Email Address: _____

RN or LPN?: RN LPN
ONA Member YES NO ONA Member Number (if applicable):

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Save the Date: Ethical Considerations in Pediatric Health Care–October 3, 2008

Objectives:

1. Discuss resources that guide ethical decision making.
2. Identify religious, cultural, and health beliefs related to choices parents make about children's health care.
3. Discuss strategies related to child and family advocacy in the face of difficult medical and moral decisions.
4. Describe unique health care needs of families with medically fragile children.

Contact hours will be awarded.

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Watch for further details in future issues of the *Ohio Nurse* and online at www.ohnurses.org > Events, or contact Sandy Swearingen at 614-448-1030 (sswearingen@ohnurses.org).

Independent Studies

Individual copies of independent studies are available to interested nurses at a nominal fee of $12.00 per study (plus shipping and handling). **The fee applies to both ONA members and non-members.** After completion of the packet, learners return their completed post-test, evaluation form, and registration information to earn contact hours. To order any of these independent studies, please fill out the order form attached and return to the Ohio Nurses Foundation, Dept. LB-12, PO Box 183134, Columbus, OH 43218-3134.

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Law and Rules

The following studies meet the OBN requirement for 1 contact hour in law and rules (Nursing Practice Act) governing nursing practice in Ohio required for renewal of an Ohio nursing license.

Delegation by Licensed Nurses–1.02 Contact Hours

This independent study has been developed to help nurses understand their rights and responsibilities regarding delegation by licensed nurses. Developed by Peggy Noble Maguire, JD, RN and Jan Lanier, JD, RN

The Ethics of Caring–1.2 Contact Hours

This independent study has been developed for nurses to better understand ethical decision-making including Ohio nursing law and rules. Developed by R. Wynne Simpkins, RN, MS

Medication Aides–What the Laws and Rules Say–1.27 Contact Hours

This independent study has been developed for nurses to better understand the new laws and rules relative to medication aides. Developed by Jan Lanier, RN, JD

Nursing Law and Rules in Ohio: An Overview–1.2 Contact Hours

This independent study has been developed for nurses who wish to learn more about nursing law and rules in Ohio in general. The study was designed to be utilized with both Section 4723 of the Ohio Revised Code (ORC), (commonly known as the Nurse Practice Act) and Chapter 4723 of the Ohio Administrative Code (commonly known as Board rules). Developed by Carol Roe, JD, RN

Professional Boundaries and Sexual Misconduct–1.0 Contact Hour

This independent study has been developed for nurses who wish to learn more about professional boundaries and sexual misconduct relative to nursing practice. Developed by Jan Lanier, RN, JD

Whistleblowing–How to Ensure That the Law Protects You–1.0 Contact Hour

This independent study has been developed to help nurses understand their rights and responsibilities regarding the provisions in the Nurse Practice Act and the law that protects nurses who blow the whistle from employer retaliation. Developed by Jan Lanier, JD, RN and Kathleen M. Blickenstaff, JD, MS, RN, CS

Advanced Practice Nurses

The following activity has been designed specifically for APNs. Non APNs are welcome to take these studies also. This study meets the OBN requirement for APN license renewal.

The Pharmacotherapeutics of Pain Medications–1.16 Contact Hours

This study was developed for nurses, especially advanced practice nurses who wish to learn more about the different pharmacotherapeutic aspects of pain medications. Developed by Phyllis A. Grauer, PharmD, RPh

Sponsored by an unrestricted educational grant from Purdue Pharma.

Pain

Assessment and Management of Neuropathic Pain–1.2 Contact Hours of Category B and D

This study was developed for nurses who wish to better understand neuropathic pain. Developed by Michelle A. Hobbs, MS, RN, CNP. *Sponsored by an unrestricted grant by Purdue Pharma L.P., Stamford, CT.*

Chronic Non-Malignant Pain–1.38 Contact Hours

This study has been developed for nurses who wish to better understand chronic non-malignant pain. Developed by Cathy D. Trame, MS, RN, CNS and April Hickey, MSN, RN, CNS. *Sponsored by an unrestricted educational grant by Purdue Pharma.*

Pain Management–An Overview–1.33 Contact Hours

This independent study was developed to help nurses increase their understanding about pain management. Developed by Elizabeth A. Macklin-Mace, BA, RN

School Nurses

BMI for Age–1.5 contact hours

This study was developed to improve school nurses' knowledge of Body Mass Index, how to calculate it, who to refer to physicians for further evaluation, and what should be included in school programs to deal with the problem of obesity in children. Developed by Dorothy Brystrom, MEd, RN, NCSN *and* Heidi Scarpitti, RD

Individual Health Care Plans: A Guide to School Nurses–1.66 contact hours

This study was designed to increase school nurses understanding of individualized health care plans used in schools in Ohio. Developed by Nancy Mosca, PhD, RN

Provisions of Nursing Services to the School Aged Population–2.27 contact hours

This study has been developed to increase school nurse understanding of school nursing and local health departments in Ohio. Developed by Kim Toole, MSN, RN, PNP, NCSN

Pediatric Skin Rashes–1.75 contact hours

This study was developed to increase school nurses understanding of skin rashes. Developed by Jane Carmean, BSN, RN

Community Health Workers

The Community Access Program (CAP) through the Community Care Coordination Collaborative (C4) has identified the core competencies for supervisors of community health workers. These modules were developed based upon the educational needs identified by agency administrators, supervisors and community care coordinators.

Nurturing Workers Using Performance Reviews–1.66 contact hours

This study has been developed to increase understanding about how to conduct performance evaluations. Developed by Fay Yocum, MS, RN

The Supervisor's Role in the Employment Process–1.66 contact hours

This study was developed to increase understanding about the hiring process. Developed by Gail Maier, PD, RN

Supervisors, Staff and Cultural Competency Skills–1.83 contact hours

This independent study is designed to increase understanding about cultural competency as a supervisor. Developed by Patricia Williams, BSSW

Supervising Licensed and Unlicensed Personnel's Documentation Skills–1.66 contact hours

This study was developed to increase understanding of principles of documentation and the responsibility of supervisors of community health workers. *Developed by* Michelle Mills, MSSA, LSW

Other Studies

A Nursing Malpractice Primer–1.0 Contact Hour

This study has been developed to provide an introduction to malpractice as it applies to nurses. Developed by Barbara G. Walton, MS, RN

A Profile of Nursing Abuse: What Can Be Done? 1.16 Contact Hour

This independent study was developed to increase understanding about nurses who become abusers of clients and what can be done about the problem. Developed by Joan Harkulich, MSN, RN

An Introduction to Peripherally Inserted Central Venous Catheters (PICC)–1.5 Contact Hours

This study was developed to improve the nurses' knowledge and understanding regarding the use and care of PICCs. Developed by Nancy L. Stone, RN, CCRN

Anxiety and Depression in Older Adults–1.16 Contact Hours

This study discusses the incidence of anxiety and depression in older adults, signs and symptoms, testing and management. Developed by Evanne Juratovac, MS, RN, CS. *Sponsored by an unrestricted educational grant by Bristol-Myers Squibb Co.*

Are You in Congestive Nursing Failure? Legal Issues, Critical Thinking and the Impact on Practice–0.91 Contact Hours

This independent study was developed for nurses to increase understanding about critical thinking. Developed by Barbara Walton, MS, RN

Arthritis–Rheumatoid and Osteo–1.26 Contact Hours

This independent study was developed for nurses who wish to learn more about identification and treatment of arthritis. Developed by Barbara A. Nash, MSN, RN, C, CNS

Asthma–1.13 Contact Hours

This independent study has been developed for nurses who wish to increase understanding about asthma in general. Developed by Lois Nelson, MD, FAAAAI and Sandy Oehrtman, PhD, RNC, CPNP

Balancing the Demands in Your Life through Humor–0.91 Contact Hours

In today's world, nurses find themselves constantly under pressure. We pressure ourselves to be good nurses, good spouses, and good parents, among other things. Learn how to make humor work for you at home and at work. Developed by Deborah A. Hague, MS, RN. **Sponsored by an unrestricted educational grant from Astra Merck, Akron.*

Becoming Politically Active–1.08 Contact Hour

This independent study has been developed for nurses who wish to increase their knowledge about how to become politically involved. Developed by Carol Roe, JD, RN

The Challenge of Critical Thinking–1.0 Contact Hour

This study was developed to better understand the process and application of critical thinking. Developed by Mary Lou Burlingham, MSN, RN, CS, CDE

Changing Views: Influencing How the Public Sees Nursing–1.0 Contact Hour

This study has been developed to help nurses better understand the public's perception of nursing. Developed by Pam Dickerson, PhD, RN, BC

Chronic Kidney Disease: Stages and Nursing Care–1.5 Contact Hours

This independent study has been developed for nurses to better understand chronic kidney disease. Developed by Barb Walton, MS, RN

Complementary Therapies from a Nursing Perspective–1.15 Contact Hours

This study was written to increase the understanding of various complementary therapies. Developed by Yvonne Smith, MSN, RN, CNS, CCRN

Creative Teaching Strategies–0.86 Contact Hours

This study was developed to help nurse educators develop more creative teaching strategies. Developed by Pam Dickerson, PhD, RN, BC

Demystifying the Immune System and Autoimmune Disease–1.25 Contact Hours

This independent study has been developed for nurses to better understand the immune system and autoimmune diseases. Developed by Barbara Walton, MS, RN

Developing a Nursing Business: The Process–1.0 Contact Hour

This study has been developed to provide basic information on how to start your own nursing business. Developed by Pamela Dickerson, PhD, RN, BC *and* Deborah Hague, MS, RN, BC

Ethics–1.1 Contact Hours

This independent study has been developed for nurses who wish to increase their understanding about ethics. Developed by Elaine Glass, MS, RN, AOCN

Facilitating Professional Growth: A Guide to Planning, Implementing and Evaluating Continuing Education in the State of Ohio–1.5 Contact Hours

This study was developed to assist the Ohio staff development educator or continuing education provider in the process of planning, implementing and evaluating continuing education. Developed by Pam Dickerson, PhD, RN, C

Heart Failure: A New Look at an Old Problem–1.5 Contact Hours

This independent study has been developed to help nurses who wish to learn more information regarding heart failure. Developed by Barb Walton, MS, RN

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Independent Studies . . .

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Hidden Hazards in Health Care–0.98 Contact Hours

This independent study has been developed to educate nurses on the hidden hazards of waste products in health care. Developed by Patricia Reinhart, RN

Identification and Treatment of Alcohol Abuse, Dependence and Withdrawal–1.16 Contact Hours

This independent study addresses the prevalence of alcohol abuse and dependence in the general population; identifies effective screening and assessment tools; describes the indicators of alcohol abuse and the intervention; and referral actions that RNs should take upon identification of the patient at risk of withdrawing from alcohol. Developed by June A. Tierney, MSN, RN, CS

Influenza Pandemic: Nothing to Sneeze About?–1.5 Contact Hours

This independent study was developed to help nurses to learn more about the influenza pandemic. Developed by Barbara Walton, MS, RN

Interpreting Common Lab Values–0.83 Contact Hours

Developed for nurses who wish to review common lab values, this study covers hematologic studies, blood chemistries, arterial blood gases, and urinalysis. Developed by Deborah Hague, MS, RN,C. **Sponsored by an unrestricted educational grant from Astra Merck, Akron.*

Interpreting Lab Values Affected by Kidney Function–1.6 Contact Hours

This independent study has been developed for nurses who wish to increase understanding about lab values which are affected by kidney function. Developed by Deborah Hague, MS, RN, C

Lupus–1.08 Contact Hours

This independent study has been developed to help nurses to learn more about Lupus. Developed by Barbara Walton, MS, RN

Making a Test That Gets Results–1.66 Contact Hours

This independent study has been developed to help nurses to learn more about how to write effective and valid test questions. Developed by Shirley Hemminger, MSN, RN, CCRN (Expires: 1/2008)

Multiple Sclerosis: A Multi-faceted Disease–1.56 Contact Hours

This independent study has been developed to help nurses better understand multiple sclerosis. Developed by Barbara Walton, MS, RN

Nausea and Vomiting: Nursing Care and Intervention–.94 Contact Hours

This independent study has been developed for nurses to better deal with the patient's nausea and vomiting. Developed by Sam Bass, RN, CPAN

Parkinson's Disease–1.16 Contact Hours

This independent study has been developed to help nurses understand Parkinson's Disease. Developed by Barbara Walton, MS, RN

Political Activism: Being an Effective Advocate for Nurses and Nursing–1.08 Contact Hours

This study provides the learner information they will need to begin to effectively influence the legislative process on behalf of the nursing profession. Developed by Jan Lanier, JD, RN

Sorting Out the Viral Hepatitis Alphabet–1.0 Contact Hour

This study has been developed to help nurses better understand viral hepatitis. Developed by Marcia Schneider, RN

The Highs and Lows of Thyroid Disease–1.25 Contact Hour

This study was developed for nurses to better understand thyroid diseases and related nursing implications. Developed by Barbara Walton, MS, RN

The Ten Steps to Making a Successful Job Change–0.77 Contact Hours

This study has been developed for nurses who wish to learn more about the steps involved in successfully changing jobs. Developed by Deborah A. Hague, MS, RN, C

Tips for Managing Anger Constructively–0.86 Contact Hours

This independent study has been developed for nurses who wish to increase understanding about anger management in general. Developed by Deborah A. Hague, MS, RN, C

Understanding Fluid Shifts–1.58 Contact Hours

This study has been developed for nurses who wish to increase their knowledge about fluid shifts. Developed by Barbara Walton, MS, RN

Violence Against Nurses: The Silent Epidemic–1.08 Contact Hours

This study has been developed for nurses who wish to learn more about violence against nurses. Developed by Donna M. Gates, EdD, MSPH, MSN, RN and Darcy Kroeger, BS, BSN, RN

Whose Job Is It, Anyway? The Nurse's Role in Advocacy and Accountability–0.80 Contact Hours

This study has been developed to assist nurses with their role in accountability and advocacy. Developed by Pam Dickerson, PhD, RN-BC

ORDER FORM

All independent studies listed below are available to interested nurses at a nominal fee of $12.00 per study (plus shipping and handling). **The fee applies to both ONA members and non-members.** After completion of the packet, learners return their completed post-test and registration information to earn contact hours. To order any of these independent studies, please mark your choices, fill out the form, and return to ONF.

ALL STUDIES MUST BE PRE-PAID

- A Nursing Malpractice Primer–1.0 Contact Hour.
- A Profile of Nursing Abuse: What Can Be Done?–1.16 Contact Hours
- An Introduction to Peripherally Inserted Central Venous Catheters (PICC)–1.5 Contact Hours
- Anxiety and Depression in Older Adults–1.16 Contact Hours
- Are You in Congestive Nursing Failure? Legal Issues, Critical Thinking and the Impact on Practice–0.91 Contact Hours
- Arthritis - Rheumatoid and Osteo–1.26 Contact Hours
- Assessment and Management of Neuropathic Pain–1.2 Contact Hours
- Asthma–1.13 Contact Hour
- Balancing the Demands in Your Life Through Humor–0.91 Contact Hour
- Becoming Politically Active–1.08 Contact Hours
- BMI for Age–1.5 Contact Hours
- Changing Views: Influencing How the Public Sees Nursing–1.0 Contact Hour
- The Challenge of Critical Thinking–1.0 Contact Hours
- Chronic Kidney Disease: Stages and Nursing Care–1.5 Contact Hours
- Chronic Non-Malignant Pain–1.38 Contact Hours
- Complementary Therapies from a Nursing Perspective–1.15 Contact Hours
- Creative Teaching Strategies–0.86 Contact Hour
- Delegation by Licensed Nurses–1.02 Contact Hours
- Demystifying the Immune System and Autoimmune Diseases–1.25 Contact Hours
- Developing a Nursing Business: The Process–1.0 Contact Hour
- Ethics–1.1 Contact Hours
- The Ethics of Caring—1.2 Contact Hours
- Facilitating Professional Growth: A Guide to Planning, Implementing and Evaluating Continuing Education in the State of Ohio (State Level)–1.5 Contact Hours
- Heart Failure: A New Look at an Old Problem–1.5 Contact Hours
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- Identification and Treatment of Alcohol Abuse, Dependence and Withdrawal–1.16 Contact Hour
- Individual Health Care Plans: A Guide to School Nurses–1.66 Contact Hours
- Influenza Pandemic: Nothing to Sneeze About?–1.5 Contact Hours
- Interpreting Common Lab Values–0.83 Contact Hours
- Interpreting Lab Values Affected by Kidney Function–1.6 Contact Hours
- Lupus–1.08 Contact Hours
- Making a Test That Gets Results–1.66 Contact Hours
- Medication Aides–What the Laws and Rules Say–1.27 Contact Hours
- Multiple Sclerosis: A Multi-faceted Disease–1.56 Contact Hour
- Nausea and Vomiting: Nursing Care and Intervention—0.94 Contact Hours
- Nursing Law and Rules in Ohio: An Overview–1.2 Contact Hours
- Nurturing Workers Using Performance Reviews–1.66 Contact Hours
- Pain Management–An Overview–1.33 Contact Hours
- Parkinson's Disease–1.16 Contact Hours
- Pediatric Skin Rashes–1.75 Contact Hours
- The Pharmacotherapeutics of Pain Medications–1.16 Contact Hours
- Political Activism: Being an Effective Advocate for Nurses and Nursing–1.8 Contact Hours
- Professional Boundaries and Sexual Misconduct–1.0 Contact Hour
- Provisions of Nursing Services to the School Aged Population–2.27 Contact Hours
- Sorting Out the Viral Hepatitis Alphabet–1.0 Contact Hour
- The Supervisor's Role in The Employment Process–1.66 Contact Hours
- Supervisors, Staff and Cultural Competency Skills–1.83 Contact Hours
- Supervising Licensed and Unlicensed Personnel's Documentation Skills–1.66 Contact Hours
- The Highs and Lows of Thyroid Disease–1.25 Contact Hour
- The Ten Steps to Making a Successful Job Change–0.77 Contact Hours
- Tips for Managing Anger–0.86 Contact Hour
- Understanding Fluid Shifts–1.58 Contact Hours
- Violence Against Nurses: The Silent Epidemic–1.08 Contact Hours
- Whitstleblowing–How to Ensure That the Law Protects You–1.0 Contact Hour
- Whose Job Is It, Anyway? The Nurse's Role in Advocacy and Accountability–0.80 Contact Hours

HOW TO ORDER

Each individual Independent Study is $12.00 plus shipping and handling. All studies must be pre-paid. **The fee applies to both ONA members and non-members.**

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1 Study–$3.00
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