

AUA Update Series 2011

Lesson 34

Volume 30

Utilization of Non-Physician Providers in Urological Practice

Learning Objective: At the conclusion of this continuing medical education activity, the participant will be familiar with the role of the non-physician provider in urological practice.

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INTRODUCTION

Anticipated shortages in health care services will change the relationship between surgeons and non-physician providers. During the last several decades an increase in the number of nurse practitioners and physician assistants, state laws approving prescriptive authority and third party reimbursement, and an effort to improve health care access have given rise to critical roles for NPPs in health care practices.¹ Health care has increasingly emphasized the need for a team approach among physicians, nurses and non-physician providers to offer efficient and high quality service to patients.

NPPs should be acknowledged as experts with a high level of training who perform billable services. When properly trained and used, the NPP enables practices to provide better quality of care and improve physician productivity.² NPPs should enhance patient care, serving as a professional extension of the physician's expertise rather than a substitute.

Within urological practice non-physician providers can provide a number of beneficial services. The field of urology commits to addressing conditions that patients may consider embarrassing or have difficulty discussing. An NPP in a urological practice, like a urologist, must bring not only a high level of specialized knowledge, but also sensitivity, compassion and motivation to learn.

NON-PHYSICIAN PROVIDERS

In urological practice non-physician providers usually comprise nurse practitioners and physician assistants. Overall, NPs and PAs are increasing in number annually, and the demand for NPPs is expected to continue to grow.³ In 1995 an estimated 44,200 NPs were practicing in the U.S. and this number expanded to 82,622 by 2005, with an average increase of 9.44% a year. More than 24,000 students are enrolled in master's level NP programs each year.⁴ According to the AANP survey data, the number of NPs in urology increased 1.1% each year between 2003 and 2008, with approximately 1300 NPs employed in urological practice.⁵ In 2008 the estimated total number of PAs employed in the U.S. was 74,800, and the need for additional PAs is expected to increase 39% in 2018.⁶

As NPPs are becoming incorporated in urological practice, they are developing more defined roles and responsibilities. Specifically, they can diagnose and manage acute and chronic urological diseases, order and interpret diagnostic tests, prescribe pharmacologic and non-pharmacologic treatment, provide patient education and counseling, facilitate patient adherence, and perform procedures such as catheterization, cystoscopy and urodynamics.

The training background is distinctly different for NPPs compared to physicians, expediting their preparation for the health care workforce. Graduate training lasts approximately half that of accredited U.S. medical school programs, so NPPs earn their

degrees sooner and with less cumulative debt. Once NPPs complete their education, their versatility allows them to fill gaps in the specialty practice. Additionally, residencies for MDs may last 3 to 7 years depending on the specialty, whereas NPPs obtain clinical training as they begin working for a practice. While they complete this on-the-job training, NPPs can also bill for services and, therefore, generate revenue. NPs and PAs achieve their advanced degrees from different training programs but both can fill similar roles to supplement a medical practice.

Nurse practitioner. The nurse practitioner profession was founded in 1965 at the University of Colorado in response to a regional shortage of family practice physicians and pediatricians.⁷ Registered nurses start their career as a graduate from an accredited school of nursing and may choose to pursue training as an advanced practice nurse. The 4 types of advanced practice nurses are clinical nurse specialists, nurse anesthetists, nurse-midwives and nurse practitioners. NPs serve as either primary or specialty care providers. To reach the level of an advanced practice nurse, NPs typically pursue a master's degree in nursing. Currently, NP master's programs require 24 months of course work with more than 500 hours of clinical experience.⁷ Most NP programs are accredited by the Commission on Collegiate Nursing Education.⁷ According to the 2010 American Association of Colleges of Nursing annual survey, enrollment in higher level nursing programs continues to grow each year, with enrollment in doctoral nursing programs increasing more than 20% in 2009.⁴

Upon completion of all educational requirements, the NP must acquire a license in the state in which he/she will practice. Licensure allows for independent practice and billing. NPs can pursue national certification through professional certification boards such as the AANP. The AANP mandates continuing medical education for recertification every 5 years, including 75 contact hours relevant to the NP's specialty.⁵

A cornerstone of nursing education is the relationship with and attitude toward the patient. Upon completion of training, NPs are well prepared to address issues of communication and dealing with patients on a personal level. NP programs are shifting emphasis on granting doctoral degrees, and by 2015 all American Association of Colleges of Nursing member institutions are transitioning the current level of preparation for advanced nursing practice to the Doctor of Nursing Practice. With these doctoral programs becoming more standard, 5 to 6 semesters will be added to the degree requirements.⁷

Physician assistants. PAs undergo formal training to provide diagnostic, therapeutic and preventive health care services in conjunction with the physician.⁶ The first PA students began training at Duke University School of Medicine in 1965.⁸ In 2008, 142 PA training programs were accredited by the Accreditation Review Commission on Education for the Physician Assistant. Most accredited training programs are affiliated with an academic health center or health sciences program.⁶

ABBREVIATIONS: AANP (American Academy of Nurse Practitioners), E/M (evaluation and management), NP (nurse practitioner), NPP (non-physician provider), OR (operating room), PA (physician assistant)

Unlike NPs, education for the PA is conducted under the medical model rather than the nursing model. Physician assistant training programs last 2 years and grant a master's degree upon completion. Requirements for admission to a training program typically include a college degree and some health related work experience.⁶ Teaching includes classroom and laboratory course work as well as clinical rotations. PA students are taught how to complete a history and physical examination, order and interpret diagnostic tests, complete minor procedures, write progress notes, make diagnoses and counsel patients.⁶ **All states require that PAs complete an accredited program and pass the Physician Assistant National Certifying Exam. Continuing medical education requirements include 100 hours every 2 years, and PAs must pass a recertification examination every 6 years. PAs can never practice completely independently, however, and must always provide services as delegated by a physician.**⁶

During their education, PAs rotate through many specialties, including internal medicine, pediatrics, obstetrics and gynecology, and general surgery, **which enables them to graduate with better preparation in various procedures, techniques and specialty practices. Their clinical training sets the foundation for further subspecialty training after hire.** If desired, future training opportunities for PAs may include standardized on-the-job training or residencies and fellowships in a particular field.⁹⁻¹¹

TRAINING FOR UROLOGICAL PRACTICE

Castledine outlined 7 key criteria that an NPP should fulfill to supplement a clinical practice.¹² **The NPP should be 1) an autonomous practitioner; 2) experienced and knowledgeable; 3) a researcher and evaluator of care; 4) an expert in health and nursing assessment; 5) an expert in case management; 6) a consultant, educator and leader; and 7) a role model (see Appendix).** When hiring an NPP, the urologist should address a number of considerations. An NPP should express a special interest in the field of urology, and the urologist must be willing to provide further training and fund any specialty upgrades or additional education the NPP may require for practice. The NPP must not only possess a strong clinical background, but also prior patient related experience. Often the NPP serves as the face of the practice, spending more time and developing a unique rapport with the patient.¹³ Therefore, the NPP must possess excellent interpersonal and communication skills, attention to detail and the ability to work well with other members of the practice team. Computer literacy is essential, as a number of institutions have converted to electronic medical records and NPPs are often primarily responsible for documentation of a patient encounter.

Membership to various academic organizations and formal certification may reinforce the NPP's interest and ability in the field of urology. The Society of Urologic Nurses and Associates offers membership to advanced practice nurses specializing in urology. Certification from the Certification Board of Urology Nurses and Associates, while not a prerequisite, allows NPs to exhibit special competence in the practice of urology. PAs may join the Urological Association of Physician Assistants, which

interacts directly with the American Urological Association. For those practicing in pediatric urology, the Pediatric Urology Nurse Specialists provide section affiliation with the American Academy of Pediatrics Section on Urology. The American Urological Association offers allied membership to urology health care professionals including NPs and PAs.

On-the-job training is a vital component of NPP development as a practitioner in urology. Exposure to urology during PA or NP school may be limited, and so a majority of the NPP's practical urological knowledge is acquired after joining the practice.^{11, 14} **The urologist should allow for a transition period so the NPP can become more comfortable with diagnosis and treatment of urological conditions.** For example, an NPP might shadow the urologist for the first 3 months of practice. A transition to more independent patient care with the urologist immediately available and more autonomy can be granted as the NPP gains more experience.

The urology practice should support professionally and financially any academic endeavors the NPP pursues to further his/her career. Training in management of a unique diagnosis or urological procedure at programs offered by the AUA and American Academy of Pediatrics can enhance the NPP's ability to care for the urological patient and ultimately benefit the practice. The urologist should consider testing the NPP's fund of knowledge with assessment exams or provide a certificate of completion when the NPP masters a particular skill or procedure. Evaluations several times a year will also provide NPPs with direct feedback so they know in which areas they have strengths and weaknesses.

THE ROLE OF THE NON-PHYSICIAN PROVIDER

Non-physician providers can enhance urological clinical practice in a variety of capacities, such as initial patient assessment, wound care and bladder training. They can also provide assistance with communication by addressing patient questions over the phone or educating families with home procedures such as clean intermittent catheterization.¹⁵ NPs and PAs perform activities formerly considered within the physician's domain alone. They can evaluate and manage many urological cases, order and interpret diagnostic or radiographic tests, and prescribe medications.¹⁵ A recent survey of advanced practice nurses employed in urology revealed more than 71 job functions conducted within their practices, including specialized services such as performing office biopsies and cystoscopy, making inpatient rounds and providing first assistance in the operating room.¹⁵

While these highly specialized skills are unique to only a few practices, urologists have expressed growing interest in assigning more clinical responsibilities to non-physician providers. Primary advantages to incorporating NPPs into urological practice are their unique level of skill and ability to generate revenue. NPPs should not spend valuable time on non-billable services such as transcribing clinic reports and calling third party payers.¹⁵ Supplementing the workforce in urology has grown increasingly important as work hour limitations have curbed the availability of urology housestaff.¹⁶

Urology is a unique field addressing several intimate issues such as infertility, erectile dysfunction and urinary incontinence. Depending on the relationship with their physician, patients may not be entirely forthcoming with the details of their urological problem. As the first practitioner encountered during a clinic visit, a non-physician provider is in a crucial position to screen and counsel patients. The NPP can be trained to manage a broad range of urological conditions or can gain expertise within a specific urological subspecialty. NPPs may require supplementary education to attain advanced knowledge exclusive to a particular area but this will create a more efficient subspecialty practice in which patients are comfortable discussing embarrassing medical issues.¹⁷

Additional training, particularly in urological diseases of a medical or psychosocial nature, will allow the NPP to manage conditions that are more labor-intensive for the busy urologist. NPPs provide an advantage for the urological clinic by spending more time with the individual patient. The urologist's schedule may include dozens of clinic visits, so that realistically only a few minutes can be spent with each patient. The NPP affords the patient more attention, thereby offering a more satisfactory clinic experience and potentially a close long-term patient relationship.¹³ For urology practices that have incorporated clinics led by nurse practitioners, patient surveys have shown 84% or higher satisfaction with clinic wait times, procedure preparation and overall clinic quality.¹⁸

The NPP may work independently in a clinic or see patients in tandem with the urologist. The variety of outpatient responsibilities may include seeing walk-in patients, attending to uncomplicated acute diagnoses, providing follow-up for patients recently seen in the emergency department, taking preoperative histories and performing physical examinations. Services rendered on behalf of physician practices by NPs and PAs can be billed to Medicare (85% of physician rate), Medicaid and most private or managed care insurers.^{19, 20} NPPs have taken interest in specific subspecialty areas within urology, providing autonomous care in benign prostatic hyperplasia, prostate cancer and erectile dysfunction.²¹

For various medical specialties NPPs can develop procedural skills comparable to those of a physician. By incorporating appropriately trained NPPs to perform clinical procedures, medical practices increase their capacity to deliver timely diagnostic intervention and potentially enhance continuity of care.²² Nurses in gastroenterology have been successfully trained in flexible sigmoidoscopy,^{23, 24} and cardiac surgeons often rely on competent NPPs to harvest veins for coronary bypass surgery.²⁵ NPPs practicing in urology can master medical procedures unique to the urologist as well. With current AUA recommendations on bladder cancer screening, the workload in surveillance cystoscopy has increased. To provide this procedure more efficiently for patients, NPPs have sought training in flexible cystoscopy and participate in outpatient cystoscopy clinics either independently or parallel to the urologist. Giving the NPP responsibility for such procedures generates questions of training, competence, accountability and liability.²⁶ Gidlow et al reported that a urology NP could success-

fully perform office cystoscopy and detect suspicious lesions as accurately as the urologist. In their study NPs first participated in 50 supervised procedures, reaching a baseline level of competency through this initial period of training. This was an arbitrary number selected, however, and a variable number of procedures may be required to achieve proficiency depending on skill.

Henderson et al evaluated the diagnostic yield and patient satisfaction surrounding transrectal ultrasound guided prostate biopsy performed by NPs in the United Kingdom.²² All NPs were required to complete a prerequisite training program, including observation of 20 cases, identification of transrectal ultrasound anatomy in 30 cases with a urologist mentor and 50 cases of prostate biopsy supervised by a urologist. Cancer detection was equal in biopsies performed by NPs (45%) compared to biopsies performed by attending urologists (44%). Patients were surveyed about their biopsy experience afterward, and 97% did not mind or preferred having the NP perform the biopsy, and 86% would be happy receiving the biopsy results from the NP, whereas 11% would not. The authors agreed that decision making regarding who to biopsy, the long-term management of patients with negative biopsy and treatment options available for those diagnosed with prostate cancer are ultimately within the jurisdiction of the attending urologist.

If experienced in a particular procedure, NPPs can provide valuable teaching to other providers, including junior residents. However, having an NPP perform procedures to facilitate patient care should not deprive the urology resident of learning opportunities. Additionally, NPPs may be able to perform procedures at the skill level of the physician but a urologist should be immediately available during procedure clinics run by NPPs. Rare findings or management questions may arise and ultimately the urologist is responsible for patient care in the practice.

NPPs do not have to perform procedures alone but can participate in a holistic approach to patient care. An NP or PA may offer practical information and psychological support regarding the diagnosis. They may continue care following the procedure by calling patients with pathology results and arranging follow-up visits. In addition to or in lieu of participating in the outpatient urology clinic, NPPs can assist with inpatient care, which creates an opportunity for continuity of care before and after surgery, limiting multiple patient sign-outs and loss of information.²⁷ NPPs can make daily rounds, order diagnostic tests, contact consulting services and serve as a primary contact for nursing staff. Being able to fill the inpatient role also allows residents more time to participate in clinic, procedures and operating cases, all of which are essential components of training that may be ignored when busy inpatient services and work hour restrictions limit availability.^{28, 29}

The role of the NPP in the OR is becoming more critical in urology as institutions develop specialized programs. Robotic assisted laparoscopic surgery has been adopted by an increasing number of medical centers. To ensure efficiency and high standard of performance, the surgeon sitting remote at the console must rely on a trained bedside assistant. Allocation of specific responsibilities in the OR such as port placement, retraction, suctioning and wound closure during a minimally invasive case

streamline the operation. A full-time NPP filling the role of first assistant maintains the quality of a robotic procedure through consistency, reproducibility and experience. Unlike residents and fellows, a hired NPP remains a constant member of the surgical team and can actually prepare housestaff for the role of bedside surgeon by offering instruction in the OR.³⁰

The NPP's role can be divided into preoperative, intraoperative and postoperative care. A good example is management of cases in a robotic prostatectomy program. During preoperative assessment the NPP coordinates preoperative care with the physician, ensuring that all requisite evaluations are completed and reviewed, and informs the patient of the risks and benefits associated with treatment. An example of emphasis on education is when the NPP must be able to define and describe the statistical data regarding the long-term prognosis of prostate cancer.⁸ In collaboration with the urologist, the NPP can facilitate selections of appropriate patients for a specific procedure such as a robotic assisted laparoscopic radical prostatectomy.⁸ Continuity of care is maintained as the same NPP will provide intraoperative assistance and follow the patient postoperatively. NPPs can manage erectile dysfunction rehabilitation clinics, teach biofeedback for urinary incontinence and manage support groups for patients after radical prostatectomy.⁸

They can be instrumental in an academic urological practice by educating trainees and conducting research. Some reports suggest that residents are not distracted in their training by the presence of an NPP.^{31, 32} The NP or PA can participate in research design, data collection and manuscript publication. Additionally, NPPs can present research abstracts at national meetings, representing their individual institutions on the academic forefront.

ISSUES TO CONSIDER BEFORE HIRING

If the urologist is hiring a non-physician provider to join the team, several considerations should be addressed to determine how that person can best fit into the practice. One must outline the specific roles the NPP should fill and what present issues within the practice, such as high patient volume and types of services, are most pressing. When interviewing a potential NPP, consider whether that individual should focus more on patient interaction, technical and procedural skills or both. Other factors to consider include level of experience. Younger NPPs with little exposure to urology will require more on-the-job training, while someone older with more urology experience may be skilled in certain areas but bring their own habits to the practice. Different needs within the practice may dictate which NPP is best to employ based on training background. If a practice requires an NPP to help perform procedures or assist in the OR, a PA may be the best new hire. NPs would assist best in an outpatient clinic setting in which spending time with patients and discussion of sensitive issues are primary functions. Establishing a congenial and collaborative relationship is essential to helping a new NPP adapt to the field of urology. Typical job recruitment channels can facilitate hiring a new NPP for a urological practice. Career service departments at health sciences campuses, newspaper or Internet advertisement, NP or PA

recruiters and social networking are all valuable sources of finding the right addition to the practice.

BILLING, CODING AND DOCUMENTATION

NPPs are trained how to document a patient encounter. Because certain aspects of the urological patient visit are unique, the urologist should spend time initially instructing a new NPP what features of the history and physical examination should be highlighted. To learn coding, the NPP may require thorough training sessions that will ultimately make each visit more efficient. The urologist should recognize when NPP notes should be cosigned, as certain states require an attending physician signature to bill for services.²⁰

A primary goal of adding an NPP to the urological practice is to maximize productivity. Patients should be told in advance they will be seeing an NPP while assuring them the urologist is nearby. Depending on the design of the practice, the urologist should be immediately available, particularly when seeing patients for follow-up or those with complications. When the urologist and NPP are conducting a visit together, the urologist should demonstrate support of the NPP's skills and decisions in front of the patient. Finally, the scope of the practice should be outlined clearly to the NPP to determine whether he/she will work directly with the urologist or independently with indirect supervision.

An NPP may be licensed under state law to perform a specific procedure or other service without physician supervision and have the service separately reimbursed by Medicare. When NPPs render care under their own provider number, Medicare reimburses at 85% of the Medicare Physician Fee Schedule. Medicare's "incident-to" provision allows practices to bill for qualified services performed by an NPP and receive reimbursement at 100% of the Medicare Physician Fee Schedule. For a service to be considered incident-to a physician's care, it must meet several criteria. The service must be an integral part of the physician's plan of care and under the normal course of treatment. The physician must personally provide initial care and the service must require ongoing active participation from the physician. The service must be directly supervised by either the ordering physician or a physician member of the practice. The physician does not need to be present in the same room as the NPP but must be in the office and immediately available if needed. The service is one commonly performed in the office for non-hospital patients. The service is normally provided at no charge or when costs are included within the physician's service.

If all criteria are not met, the service must be reported using the NPP's provider number. Services billed under the incident-to provision cannot include those for a new patient or new problem. In documenting incident-to care, the NPP must include the practitioner whose care plan is being followed, name of the supervising practitioner, and a progress note detailing the subjective and objective information, assessment and plan of care.³³

The Medicare Part B payment policy permits billing "shared" E/M visits under a physician's National Provider Identifier when an NPP performs services in a hospital and a physician employed

by the same entity has a face-to-face visit with the patient that day. The shared E/M policy applies only to selected E/M visits and settings, including hospital inpatient, hospital outpatient and emergency department visits. This policy does not apply to consultation services, critical care services or procedures.³⁴

Not all third party payers follow Medicare incident-to guidelines but an increasing number of commercial health care payers are credentialing NPPs. Insurers who do not credential NPPs may allow physicians to report NPP services using the supervising physician's National Provider Identifier. Some commercial payers do not cover services rendered by NPPs and only reimburse services performed by a physician. Physicians should ask their contracted payers whether services completed by NPPs can be reported using the supervising physician's National Provider Identifier or how to credential NPPs in their practice.³⁴

SUMMARY

The health care practice milieu is expected to shift significantly during the next decade. Non-physician providers will play a substantial role in primary care as well as subspecialty practices. To accommodate changes in workload, quality of care, reimbursement and lifestyle, the NPP will become an essential facet of the urological practice.

APPENDIX: CRITERIA FOR NON-PHYSICIAN PROVIDERS IN CLINICAL PRACTICE¹²

Autonomous practitioner	Resourceful enough to work independently, contributing to other health care teams
Experienced and knowledgeable	Expert in a particular field, with a sound theoretical and practical knowledge base of nursing; knowledge preferably at master's degree level
Researcher and evaluator of care	Able to conduct research and evaluate practice; good understanding of quality assurance and audit is important
Expert in health and nursing assessment	Able to conduct a comprehensive, holistic health and nursing assessment, while focusing on patient's particular medical or health concern
Expert in case management	Providing continuity and focused on the effects of disease or disability on the patient and family
Consultant, educator and leader	Good communicator, change agent and leader of nursing; acts as a consultant and educator to patients, nurses, doctors and other health care members
Role model	Respected and recognized as an authority in their particular field by other health care professionals

REFERENCES

1. American College of Physicians: Nurse Practitioners in Primary Care. Philadelphia: American College of Physicians 2009.
2. American Medical Association: Ratio of physician to physician extenders. 1998. Available at <http://www.ama-assn.org>. Accessed December 15, 2010.
3. Querna E: A health-jobs boom. US News and World Report, April 11, 2005.
4. American Association of Colleges of Nursing: 2009-2010 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing. Washington, D.C.: American Association of Colleges of Nursing 2010.
5. American Academy of Nurse Practitioners. Available at <http://www.aanp.org>. Accessed December 15, 2010.
6. United States Department of Labor: Bureau of Labor Statistics. Occupational Outlook Handbook, 2010-11 Edition. Physician Assistants. Available at <http://www.bls.gov/ocos081.htm>. Accessed December 15, 2010.
7. Ford L, Harper D, Kapustin J et al: NPs and MDs: an evolving partnership. Interview by Sarah Lebo. *Adv Nurse Pract* 2008; **16**: 55.
8. Ogunfeditimi F: The role of PAs in robotic-assisted laparoscopic radical prostatectomy. *JAAPA* 2006; **19**: 57.
9. Whitcomb ME: The shortage of physicians: a challenge for the physician assistant profession. *J Physician Assist Educ* 2007; **18**: 5.
10. Association of Postgraduate Physician Assistant Programs. APPAP Programs by Specialty. Available at http://www.appap.org/prog_specialty.html. Accessed December 15, 2010.
11. Jones PE: Physician assistant education in the United States. *Acad Med* 2007; **82**: 882.
12. Castledine G: The role and criteria of an advanced nurse practitioner. *Br J Nurs* 1996; **5**: 288.
13. Gidlow A and Roodhouse A: The urology nurse practitioner. *Nurs Stand* 1998; **12**: 49.
14. Chornick N: Advanced practice registered nurse educational programs and regulation: a need for increased communication. *JONAS Healthc Law Ethics Regul* 2008; **10**: 9.
15. Kleier JA: Procedure competencies and job functions of the urologic advanced practice nurse. *Urol Nurs* 2009; **29**: 112.
16. Jones PE and Cawley JF: Workweek restrictions and specialty-trained physician assistants: potential opportunities. *J Surg Educ* 2009; **66**: 152.
17. Newman DK: Talking to patients about bladder control problems. *Nurse Pract* 2009; **34**: 33.
18. Lane L and Minns S: Empowering advanced practitioners to set up nurse led clinics for improved outpatient care. *Nurs Times* 2010; **106**: 14.
19. U.S. Department of Health and Human Services, Office of the Inspector General: Medicare coverage of non-physician practitioner services. Available at <http://www.hhs.gov/oig/oei>. Accessed December 15, 2010.
20. Boards of Nursing in the U.S.: State-by-State Web Links. Available at <http://www.medscape.com/viewarticle/482270>. Accessed December 15, 2010.

21. Joyce J and Pope A: The nurse-led prostate clinic. *Br J Urol* 1996; **77**: 36.
22. Henderson A, Andrich DE, Pietrasik ME et al: Outcome analysis and patient satisfaction following octant transrectal ultrasound-guided prostate biopsy: a prospective study comparing consultant urologist, specialist registrar and nurse practitioner in urology. *Prostate Cancer Prostatic Dis* 2004; **7**: 122.
23. DiSario JA and Sanowski RA: Sigmoidoscopy training for nurses and resident physicians. *Gastrointest Endosc* 1993; **39**: 29.
24. Maule WF: Screening for colorectal cancer by nurse endoscopists. *N Engl J Med* 1994; **330**: 183.
25. Holmes S: Development of the cardiac surgeon's assistant. *Br J Nursing* 1994; **3**: 204.
26. Gidlow AB, Laniado ME and Ellis BW: The nurse cystoscopist: a feasible option? *BJU Int* 2000; **85**: 651.
27. Vidyanthi AR, Arora V, Schnipper JL et al: Managing discontinuity in academic medical centers: strategies for a safe and effective resident sign-out. *J Hosp Med* 2006; **1**: 257.
28. Cawley JF and Hooker RS: The effects of resident work hour restrictions on physician assistant hospital utilization. *J Physician Assist Educ* 2006; **17**: 41.
29. Cooper RA: New directions for nurse practitioners and physician assistants in the era of physician shortages. *Acad Med* 2007; **82**: 827.
30. Patel VR: Essential elements to the establishment and design of a successful robotic surgery programme. *Int J Med Robot* 2006; **2**: 28.
31. Leung HY, Davis M, Arnold D et al: The role of the nurse practitioner in a urology service. *Br J Urol* 1996; **77**: 502.
32. Resnick AS, Todd BA, Mullen JL et al: How do surgical residents and non-physician practitioners play together in the sandbox? *Curr Surg* 2006; **63**: 155.
33. Desjardins L: Avoiding the pitfalls of Medicare's 'incident-to' rules. *MGMA Connexion* 2008; **8**: 23.
34. Newby J: Billing services performed by nurse practitioners and physician assistants. Available at <http://www.in-afp.org>. Accessed March 8, 2011.

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1. In the urological practice the non-physician provider can participate in all of the following except
 - a. Outpatient walk-in clinic
 - b. Inpatient management
 - c. Specialty clinic
 - d. Primary surgeon in the operating room
 - e. Procedure clinic
2. To obtain appropriate credentials and certification, the physician assistant must complete a physician assistant training program
 - a. Lasting 2 years
 - b. Lasting 2 years and a certification exam
 - c. Lasting 2 years and a post-graduate residency
 - d. Lasting 4 years
 - e. Followed by a doctoral degree
3. Areas of specialization for an advanced practice nurse include all of the following except
 - a. Registered nurse
 - b. Clinical nurse specialist
 - c. Nurse anesthetist
 - d. Nurse midwife
 - e. Nurse practitioner
4. The role of the non-physician provider should include
 - a. Prescribing medications
 - b. Transcribing clinic notes and letters
 - c. Precertifying procedures
 - d. Scheduling appointments
 - e. Acting in place of residents for inpatient patient care
5. Which of the following statements is true?
 - a. Non-physician providers cannot bill for services until on-the-job training in their speciality is completed
 - b. Only non-physician providers with prior experience in urology can be certified to perform urological procedures
 - c. A patient usually spends more time per visit and has more continuity of care with the attending urologist than the non-physician provider
 - d. Residents and fellows can learn patient management and procedures from a non-physician provider
 - e. The urologist should hire a non-physician provider who has completed supplementary training and certification in specialized areas of urology