Patient Perspectives of Midlevel Providers in Orthopaedic Sports Medicine

Blaine T. Manning,*† BS, Daniel D. Bohl,† MD, MPH, Charles P. Hannon,† MD, Michael L. Redondo,† MA, David R. Christian,† BS, Brian Forsythe,† MD, Shane J. Nho,† MD, and Bernard R. Bach Jr,† MD

Investigation performed at Rush University Medical Center, Chicago, Illinois, USA

Background: Midlevel providers (eg, nurse practitioners and physician assistants) have been integrated into orthopaedic systems of care in response to the increasing demand for musculoskeletal care. Few studies have examined patient perspectives toward midlevel providers in orthopaedic sports medicine.

Purpose: To identify perspectives of orthopaedic sports medicine patients regarding midlevel providers, including optimal scope of practice, reimbursement equity with physicians, and importance of the physician's midlevel provider to patients when initially selecting a physician.

Study Design: Cross-sectional study; Level of evidence, 3.

Methods: A total of 690 consecutive new patients of 3 orthopaedic sports medicine physicians were prospectively administered an anonymous questionnaire prior to their first visit. Content included patient perspectives regarding midlevel provider importance in physician selection, optimal scope of practice, and reimbursement equity with physicians.

Results: Of the 690 consecutive patients who were administered the survey, 605 (87.7%) responded. Of these, 51.9% were men and 48.1% were women, with a mean age of 40.5 ± 15.7 years. More than half (51.2%) perceived no differences in training levels between physician assistants and nurse practitioners. A majority of patients (62.9%) reported that the physician's midlevel provider is an important consideration when choosing a new orthopaedic sports medicine physician. Patients had specific preferences regarding which services should be physician provided. Patients also reported specific preferences regarding those services that could be midlevel provided. There lacked a consensus on reimbursement equity for midlevel practitioners and physicians, despite 71.7% of patients responding that the physician provides a higher-quality consultation.

Conclusion: As health care becomes value driven and consumer-centric, understanding patient perspectives on midlevel providers will allow orthopaedic sports medicine physicians to optimize efficiency and patient satisfaction. Physicians may consider these data in clinical workforce planning, as patients preferred specific services to be physician or midlevel provided. It may be worthwhile to consider midlevel providers in marketing efforts, given that patients considered the credentials of the physician's midlevel provider when initially selecting a new physician. Patients lacked consensus regarding reimbursement equity between physicians and midlevel providers, despite responding that the physician provides a higher-quality consultation. Our findings are important for understanding the midlevel workforce as it continues to grow in response to the increasing demand for orthopaedic sports care.

Keywords: sports medicine; nurse practitioner; physician assistant; patient satisfaction

As paradigms of health care delivery evolve, midlevel providers (ie, nurse practitioners [NPs] and physician assistants [PAs]) have become an important consideration in health care workforce planning and patient care. NPs and PAs have been increasingly integrated into orthopaedic systems of care in response to the exponentially increasing demand for musculoskeletal care by an aging population.[8] As such, the size of the midlevel workforce continues to increase. Between 2003 and 2014, the annual number of NP graduates in the United States increased from 6611 to nearly 18,500.[18] The size of the PA workforce underwent similar increases during this period.[18]

As the number of midlevel providers continues to increase, so does the controversy surrounding their scope of practice. One aspect of this debate is whether midlevel providers have the training and experience to provide patients high-quality care with minimal or no physician supervision.[13] Orthopaedic midlevel providers are also important as health care delivery and payment systems become increasingly value driven and consumer focused. In this context, orthopaedic sports medicine physicians must consider the ideal role of midlevel providers in optimizing clinical outcomes and patient satisfaction while maintaining high-quality care and efficiency. This debate

The Orthopaedic Journal of Sports Medicine, 6(4), 2325967118766873
DOI: 10.1177/2325967118766873

is ongoing in the United States.[3,14] Regardless of outcome, its effects will have major implications for health care providers, patients, and payers.

Although several studies have examined perspectives of physicians and nurses on the role of midlevel providers,[6,7,15] there is a paucity of literature examining patient perspectives, especially as it relates to orthopaedic sports medicine care. The present study sought to determine the viewpoint of orthopaedic sports medicine patients regarding midlevel providers, including optimal scope of practice, reimbursement equity with physicians for provision of the same clinical services, and the importance of the midlevel provider's credentials to patients when initially selecting a physician.

METHODS

Following exemption from our institutional board review (ORA 16121907), an anonymous questionnaire was administered to 690 consecutive new patients seeking treatment by 3 orthopaedic sports medicine physicians. To minimize bias resulting from treatment or evaluation, all consenting participants completed the survey (see the Appendix) prior to their first clinic visit. Participating patients had not previously encountered the surgeons or midlevel staff.

The first portion of the survey consisted of 3 questions regarding demographic information (age, sex, and type of health insurance) and patient perspectives on perceived differences in training levels between PAs and NPs. The second part of the survey consisted of questions regarding the optimal scope of practice for midlevel providers in orthopaedic sports medicine. Respondents were given a clinical scenario (eg, "initial postoperative appointment," "long-term postoperative appointments," "minor in-office procedures") with response options of "Should be provided by orthopaedic sports medicine physician only" or "Can be provided by either orthopaedic midlevel provider or sports medicine physician." The third part of the survey assessed patient perspectives of midlevel provider reimbursement levels as compared with physicians for the same services, level of physician supervision during procedures, and relevance of the midlevel provider's credentials when initially choosing a physician. Despite the current paradigm shift toward value-based reimbursement and increased autonomy for midlevels, there is a lack of previous studies regarding patient perspectives toward payment equity between orthopaedic physicians and midlevel providers.

Content items for the survey were generated on the basis of previous similar studies and our experiences.[6,15] Patient responses were tabulated for each item.

RESULTS

Of 690 consecutive patients administered the questionnaire, 605 (87.7%) completed it. Of those completing the survey, response rates for each survey question ranged between 97% and 100%.

Figure 1 contains respondent demographic data. There was a slight majority of male participants (51.9% vs 48.1%). Most respondents had private health insurance (83.5%), and the mean ± SD age was 40.5 ± 15.7 years. More than half of patients (51.2%) perceived no differences in training between PAs and NPs.

Figure 2 lists patients' general perspectives regarding midlevel providers. Most patients (62.9%) reported that the physician's midlevel provider's credentials are an important factor when initially choosing an orthopaedic sports medicine physician. Three-quarters (75.5%) of patients responded that the sports medicine physician should remain present in the operating room when the midlevel provider assists with surgical exposure and closure. Patient perspectives varied regarding whether midlevel providers should be reimbursed at the same rates as physicians for providing the same clinical service, despite 71.7% of patients responding that the physician offers a higher-quality consultation than a midlevel provider.

Figure 3 shows responses regarding the scope of clinical practice for midlevel providers, with specific consideration to whether patients prefer that a clinical service be provided by the physician only or by either the physician or the midlevel provider. Patients preferred that some services be provided by the physician only, such as initial postoperative appointment (73.6%), follow-up regarding abnormal imaging or test results (69.1%), and advanced diagnostic studies (magnetic resonance imaging, electromyography, etc; 66.1%). Patients also responded that some services could be provided by midlevel providers, including patient and family preoperative teaching (63.9%), follow-up visits for controlled nonoperative conditions (62.8%), and long-term postoperative appointments (62.1%).

DISCUSSION

An understanding of patient attitudes toward midlevel providers in orthopaedic sports care is increasing in importance as the midlevel workforce continues to grow. This

*Address correspondence to Blaine T. Manning, BS, Department of Orthopaedic Surgery, Rush University Medical Center, 1611 W Harrison Street, Chicago, IL 60612, USA (email: blaine.manning08@gmail.com).

†Department of Orthopaedic Surgery, Rush University Medical Center, Chicago, Illinois, USA.

One or more of the authors has declared the following potential conflict of interest or source of funding: C.P.H. receives research support from the Orthopaedic Research and Education Foundation. B.F. receives research support from Arthrex, Smith & Nephew, and Stryker; is a paid presenter/speaker for Arthrosurface and Sonoma; has stock/stock options in Jace Medical; and is a paid consultant for Sonoma and Stryker. S.J.N. receives research support from Allosource, Arthrex, Athletico, DJ Orthopaedics, Linvatec, Miomed, Smith & Nephew, and Stryker; receives royalties from Ossur and Springer; and is a paid consultant for Ossur, Pivot Medical, and Stryker. B.R.B. receives research support from Arthrex, ConMed Linvatec, DJ Orthopaedics, Ossur, Smith & Nephew, and Tornier and receives publishing royalties from SLACK Inc.

Ethical approval for this study was waived by Rush University Medical Center.

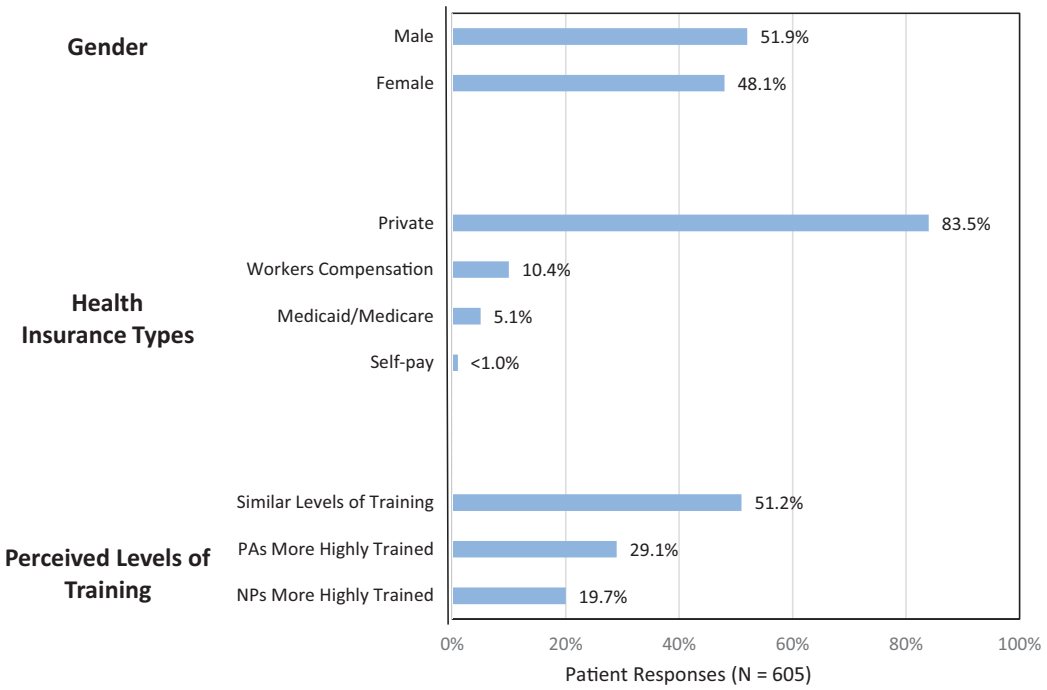

Figure 1. Respondent demographics and perceptions of training differences between nurse practitioners (NPs) and physician assistants (PAs).

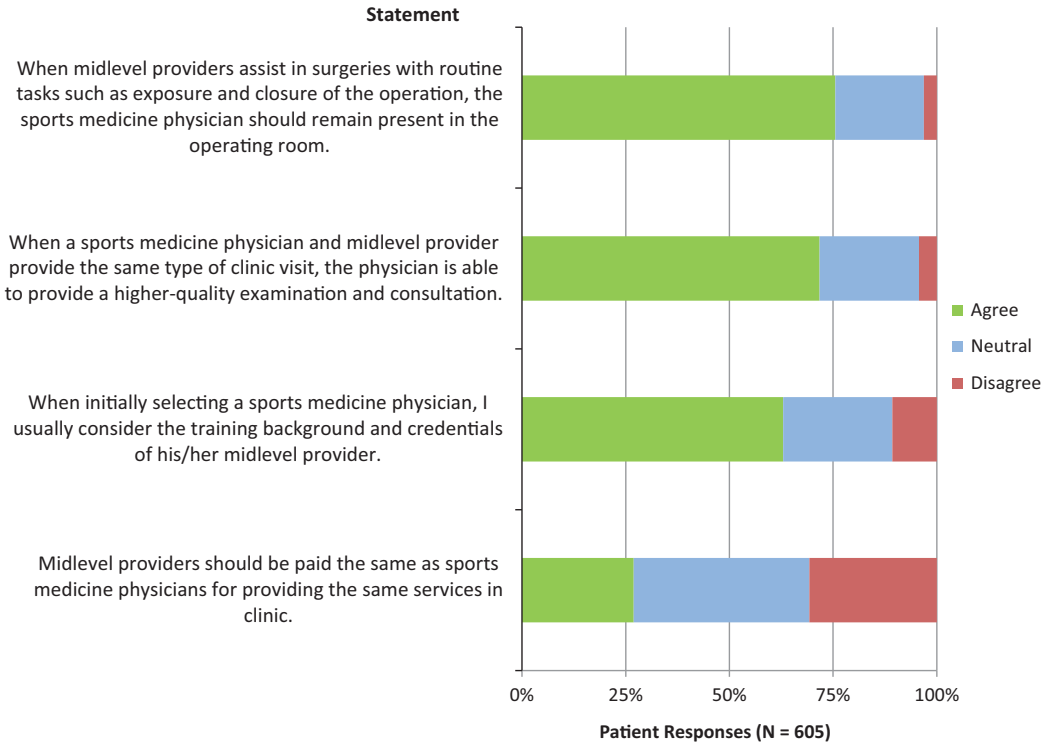

Figure 2. Orthopaedic sports medicine patient perspectives regarding midlevel providers. Participants were surveyed regarding their level of agreement or disagreement with each statement, with the choices being "strongly agree," "somewhat agree," "neutral," "somewhat disagree," or "strongly disagree." Responses were then combined under the "agree," "neutral," or "disagree" categories, respectively.

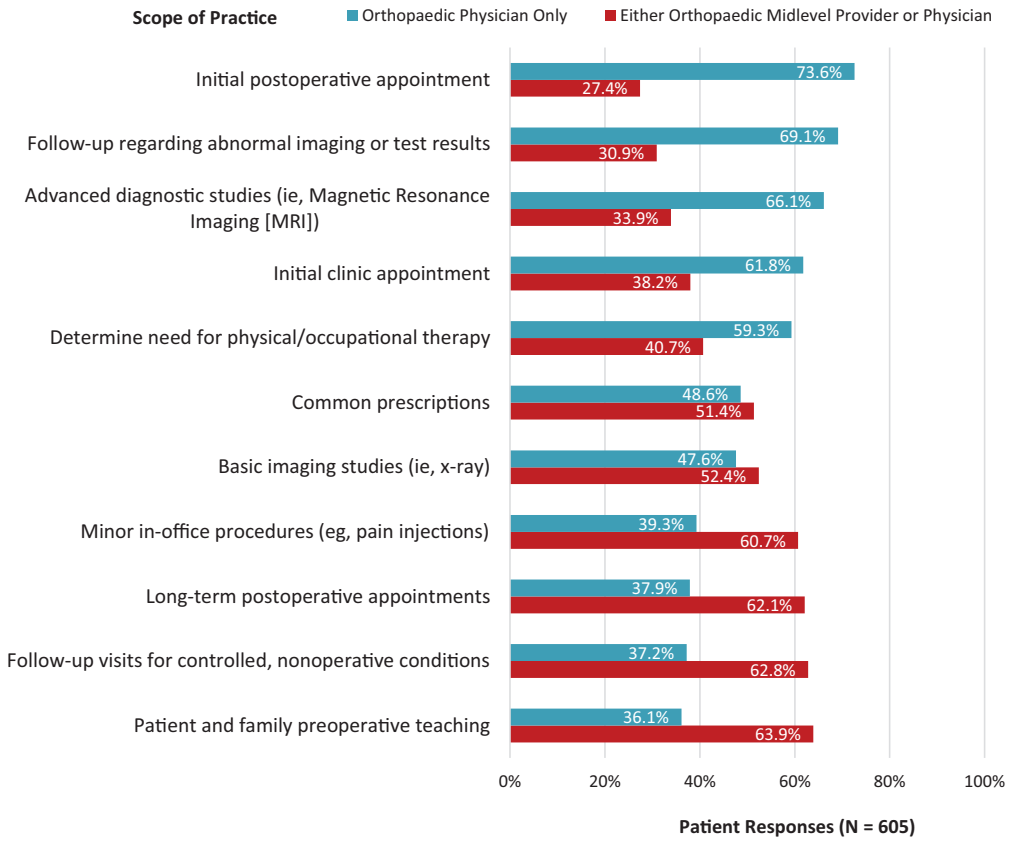

Figure 3. Midlevel providers' scope of practice in orthopaedic sports medicine. Survey participants were asked, "In a sports medicine clinic, who should provide . . . ?" with each respective clinical service subsequently listed. Response options were "Should be provided by orthopaedic sports medicine physician only" or "Can be provided by either orthopaedic midlevel provider or sports medicine physician."

study identified several areas for sports medicine physicians to consider in this regard. First, physicians may consider inclusion of midlevel providers in marketing initiatives, as most patients consider the midlevel provider's credentials when choosing a new physician, without perceiving training differences between PAs and NPs (Figure 2). Second, orthopaedic sports medicine physicians may consider a data-based approach in clinical staff workforce planning, as patients preferred that specific services be midlevel or physician provided (Figure 3). Third, patient perspectives varied toward reimbursement equity between midlevel providers and physicians, despite most patients perceiving that the physician can provide a higher-quality consultation (Figure 2). This may inform the debate surrounding the economics and value of reimbursement equity for midlevel providers and physicians. Our results are useful for orthopaedic sports medicine physicians seeking to balance efficiency and patient satisfaction as health care becomes increasingly value driven and consumer focused.

Although previous studies have noted the physician's training background and credentials to be among the most important selection criteria considered by patients,[9-11] none have examined the midlevel provider's training background as a selection criterion. Our patients considered the midlevel provider's credentials when initially choosing a new sports medicine physician (Figure 2), and most patients perceived no difference in the training levels of PAs and NPs (Figure 1). The training for NPs and PAs differs in extent and duration, as does each midlevel provider's process for licensure and credentialing. Both typically require a bachelor's degree as a prerequisite. PA-C (physician assistant–certified) licensure by the National Commission on Certification of Physician Assistants requires completion of an accredited PA-C master program, which is typically 3 years in duration. CNP (certified nurse practitioner) licensure by the American Academy of Nurse Practitioners typically requires clinical experience as an RN (registered nurse) and subsequent completion of a master's or doctoral nursing program. Several program types exist, such as MSN (master of science in nursing) and ANP-BC (adult nurse practitioner), and all are considered a type of APRN (advanced practice registered nurse). Such programs are at least 2 years in duration. Maintenance of PA-C certification includes a mandatory recertification examination every 10 years, while maintenance of NP certification occurs in 5-year cycles but does not necessarily require a recertification examination. Clinical practice guidelines relating to midlevel providers' scope of practice and physician supervision requirements are set by each state's medical board.[1,12]

Reimbursement equity between midlevel providers and physicians has also been debated in health care economics and workforce planning. Interestingly, the percentage of respondents (30.7%) who opposed reimbursement equity (presumably supporting higher reimbursement for physicians than midlevel providers for a given service) was inconsistent with the percentage (71.7%) who reported that the physician provides a higher-quality examination and consultation (Figure 2). Previous studies of primary care patients demonstrated lower evaluation and management costs for patients assigned to an NP as compared with those who had seen a primary care physician, with similar patient satisfaction scores.[16,17] Previous studies also considered whether expanding the number of midlevel providers with equal reimbursement as physicians for the same clinical service would negate the current savings from the disproportionately lower reimbursement that they currently receive.[6] Regardless, further studies on the economics and division of work between midlevel providers and physicians are warranted as society considers potential cost savings by expanding PA and NP scope of practice.

Patient preferences were distinct regarding which clinical services should be provided by the physician only and which could be provided by either the physician or the midlevel provider (Figure 3). We are not aware of any previous studies that detailed orthopaedic patient preferences regarding which clinical services are physician or midlevel provided. One study of primary care patients demonstrated appointment availability to be an important factor in their willingness to receive treatment from a midlevel provider.[5] A 2012 study of independent procedural billing to Medicare by midlevel providers found that NPs and PAs billed independently for >4 million procedures, with joint injections and radiographs being among the most common.[4] While our data suggest that orthopaedic patients are amenable to receiving these services from a midlevel provider, previous studies raised concerns regarding independent billings for diagnostic radiographs, considering the inherent difficulty and liability in their interpretation.[4] Three-fourths (75.5%) of patients in the current study responded that the physician should remain present in the operating room when the midlevel provider assists in routine aspects of surgery, such as exposure and closure (Figure 2). Further studies are warranted regarding patient preferences on disclosure regarding the role of each team member in the operating room, especially in terms of which steps of the case are performed with and without surgeon supervision.

Midlevel scope of practice is also interesting in the context of sports medicine, as hospitals and medical groups often advertise sports medicine clinics that may be primarily staffed by sports medicine "providers" with a variety of training backgrounds (orthopaedic physician, family practice physician, NP, PA, doctor of nursing practice, etc). While our respondents were seeking care from orthopaedic sports medicine physicians, the public may be unaware of the differences in the qualifications of providers. A 2008 study by the American Medical Association found that nearly 40% of the public incorrectly believed that a doctor of nursing was a medical doctor.[2] Legislation requiring that all providers clarify their degrees and qualifications to patients may be beneficial to sports medicine patients in considering the recommendations of their sports care provider.

This study has several potential limitations. First, survey respondents were at a single private practice in an urban location affiliated with a teaching hospital with full-time residents and fellows. Hence, the study findings may not represent all patients in other geographic regions and orthopaedic practices. Second, additional demographic data and stratification of our results may have been useful in determining characteristics (eg, age, previous midlevel encounters) associated with patient preferences. However, this was outside the purpose of our study, which was to elucidate patient perspectives on midlevel providers' ideal role in orthopaedic sports medicine. Future studies could acquire results from multiple private and academic orthopaedic practices in varying geographic locations for greater generalizability.

CONCLUSION

As health care becomes increasingly value driven and consumer-centric, a data-based utilization of midlevel staff will allow orthopaedic sports medicine physicians to optimize patient satisfaction and efficiency. Patients had distinct preferences regarding which clinical services are physician or midlevel provided, which may be useful for clinical staff workforce planning. Orthopaedic sports medicine physicians may also consider inclusion of their midlevel provider in marketing efforts, as most patients considered the midlevel provider's credentials to be an important factor when initially choosing their physician. Patients lacked a consensus regarding reimbursement equity between midlevel providers and physicians, despite most perceiving that the physician provides a higher-quality consultation. Our findings are pertinent as the midlevel workforce continues to grow in response to the increasing demand for orthopaedic sports care.

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APPENDIX

Anonymous Patient Survey Regarding Midlevel Providers in Orthopaedic Sports Medicine

1. Please indicate your gender
   a. Male
   b. Female
2. Please indicate your age
3. Please indicate your health insurance type
   a. Private Insurance
   b. Medicaid/Medicare
   c. Worker's Compensation
   d. Self-pay
4. Physician Assistants and Nurse Practitioners (ie, Advanced Practice Nurses) are two common types of midlevel providers. Which best describes your perspective regarding their levels of training?
   a. Physician Assistants are more highly trained than Nurse Practitioners
   b. Physician Assistants and Nurse Practitioners have similar levels of training
   c. Nurse Practitioners are more highly trained than Physician Assistants
5. In a sports medicine clinic, who is qualified to evaluate a patient at the first appointment (new patient visit)?
   a. Can be provided by either midlevel provider or sports medicine physician
   b. Should be provided by sports medicine physician only
6. In a sports medicine clinic, who should provide care to patients at follow-up (not initial) visits for controlled conditions not requiring surgery (eg, strains, sprains, pain, etc)?
   a. Can be provided by either midlevel provider or sports medicine physician
   b. Should be provided by sports medicine physician only
7. In a sports medicine clinic, who should provide to patients prescriptions for commonly used medications?
   a. Can be provided by either midlevel provider or sports medicine physician
   b. Should be provided by sports medicine physician only
8. In a sports medicine clinic, who should make a determination of whether or not there is a need for physical/occupational therapy?
   a. Can be provided by either midlevel provider or sports medicine physician
   b. Should be provided by sports medicine physician only
9. In a sports medicine clinic, who should make a determination of whether or not there is a need for basic imaging studies (ie, x-ray)?
   a. Can be provided by either midlevel provider or sports medicine physician
   b. Should be provided by sports medicine physician only
10. In a sports medicine clinic, who should make a determination of whether or not there is a need for advanced diagnostic studies (ie, Magnetic Resonance Imaging [MRI], Electromyography [EMG])?
    a. Can be provided by either midlevel provider or sports medicine physician
    b. Should be provided by sports medicine physician only
11. In a sports medicine clinic, who should follow up with the patient regarding abnormal imaging or test results?
    a. Can be provided by either midlevel provider or sports medicine physician
    b. Should be provided by sports medicine physician only
12. In a sports medicine clinic, who should perform minor in-office procedures (eg, pain injections, cast placement/removal)?
    a. Can be provided by either midlevel provider or sports medicine physician
    b. Should be provided by sports medicine physician only

13. In a sports medicine clinic, who should provide patient and family teaching prior to surgery?
    a. Can be provided by either midlevel provider or sports medicine physician
    b. Should be provided by sports medicine physician only
14. In a sports medicine clinic, who should provide the first follow-up appointment after surgery?
    a. Can be provided by either midlevel provider or sports medicine physician
    b. Should be provided by sports medicine physician only
15. In a sports medicine clinic, who should provide long-term follow-up appointments months/years after surgery?
    a. Can be provided by either midlevel provider or sports medicine physician
    b. Should be provided by sports medicine physician only
16. When initially selecting a sports medicine physician, I usually consider the training background and credentials of his/her midlevel provider.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neutral
    d. Somewhat Disagree
    e. Strongly Disagree
    f. Strongly Disagree
17. When a sports medicine physician and midlevel provider provide the same type of clinic visit, the physician is able to provide a higher-quality examination and consultation.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neutral
    d. Somewhat Disagree
    e. Strongly Disagree
18. Midlevel providers should be paid the same as sports medicine physicians for providing the same services in clinic.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neutral
    d. Somewhat Disagree
    e. Strongly Disagree
19. When midlevel providers assist in surgeries with routine tasks such as exposure and closure of the operation, the sports medicine physician should remain present in the operating room.
    a. Strongly Agree
    b. Somewhat Agree
    c. Neutral
    d. Somewhat Disagree
    e. Strongly Disagree