The mission of the *Journal of the American Academy of Orthopaedic Surgeons (JAAOS)* is the dissemination of knowledge to improve the care of orthopaedic patients.

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- Presubmission approval of a proposal is required for review manuscripts (the Standard Review, Orthopaedic Advances, and Surgical Techniques article types). See page 2. Invited authors and research manuscripts do not need a presubmission proposal.

- JAAOS uses Editorial Manager® ([www.editorialmanager.com/jaaos](http://www.editorialmanager.com/jaaos)) for all proposal and manuscript submissions.

- **Note:** Please submit your fully written research manuscripts (the Research article type) directly to Editorial Manager. A proposal is not required. Case Reports should be submitted to *JAAOS Global Research & Reviews* ([http://www.editorialmanager.com/jaaosglobal/default.aspx](http://www.editorialmanager.com/jaaosglobal/default.aspx)).

- Invited authors: Please log in to the Editorial Manager website, click “My New Invitations” in your author main menu, click “Agree to Submit,” and follow the on-screen directions.

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- **Authorship:** We require that the senior author take an active role in manuscript preparation and development. *Standard Review, Orthopaedic Advances, and Surgical Techniques manuscripts are limited to 4 authors.*

- If a contributor to your manuscript does not meet the criteria for authorship listed below, that author should be credited in an acknowledgment.

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(No limit to the number of authors, and authorship restrictions do not apply)

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<th>Post-Residency Fellow of the AAOS</th>
<th>Other</th>
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a We do not permit dual first-author status.

Authorship policy: Standard Review, Orthopaedic Advances, and Surgical Techniques (the Review Section of the Journal)
(The number of authors is limited to no more than four, and authorship restrictions apply)

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- Cite all sources of support for the work being reported, including grants, equipment, and drugs.
- A short running head of no more than 40 characters, including spaces, placed at the bottom of the title page.

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<td>Research Section: Manuscript</td>
<td>Present retrospective or prospective studies that are clinical observational, interventional, or experimental. Format: Introduction, Methods, Results, Discussion</td>
<td>300</td>
<td>4,000</td>
<td>16 panels</td>
<td>40</td>
<td>Keywords (list 5 to 8) Abstract (use structured headings: Introduction, Methods, Results, Discussion, Data Availability and Trial Registration numbers) Text with headings: Introduction, Methods, Results, Discussion References Figures and Figure legends (if applicable) Tables (if applicable) Video (if applicable)</td>
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<td>Review Section: Standard Review</td>
<td>Present a balanced approach to the current state of knowledge on a topic of interest to the practicing orthopaedic surgeon</td>
<td>200</td>
<td>4,000</td>
<td>16 panels</td>
<td>40</td>
<td>Keywords Title page Abstract Text (including Introduction and Summary) References Figures and Figure legends (if applicable) Tables (if applicable) Video (if applicable)</td>
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<tr>
<td>Review Section: Orthopaedic Advances</td>
<td>Provide current information on recent developments in orthopaedic surgery, technology, pharmacotherapeutics, and diagnostic modalities. Topics are not yet well represented in the literature.</td>
<td>150</td>
<td>2,250</td>
<td>6 panels</td>
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<td>Keywords Title page Abstract Text References Figures and Figure legends (if applicable) Tables (if applicable) Video (if applicable)</td>
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<td>Review Section: Surgical Techniques</td>
<td>Provide step-by-step details of new/innovative surgical procedures or substantial modifications of</td>
<td>150</td>
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<td>8 panels</td>
<td>30</td>
<td>Keywords Title page Abstract Text (Use headings: Introduction, Indications, Contraindications, Pearls, Pitfalls, Summary)</td>
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previously reported techniques. Provide video with audio to demonstrate specific steps.

References
Figures and Figure legends (if applicable)
Table (if applicable)
Video

\textsuperscript{a} Excludes abstract, references, and figure legend
\textsuperscript{b} Add the number of figure and table panels together to get the total. Count each multi-part figure separately, and multiply number of tables by 2 (eg, Figure 1A and 1B = 2 panels; one table = 2 panels; count appendices as tables). Note that a single illustration would not be broken up into multiple panels.
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Cite all sources of support for the work being reported, including grants, equipment, and drugs.
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<td>Research Section: Manuscript</td>
<td>State essential principles and information: Provide facts, conclusions, and outcomes; avoid “we discuss.” Be certain data agree with numbers and values in the text. Use structured headings: Introduction, Methods, Results, Discussion.</td>
<td>State hypothesis and purpose of study, setting, population, and primary outcome measure. Any clinical study in which patients are randomized into two treatment groups or are followed prospectively to compare two different treatments must have been registered in a public trials registry, e.g., <a href="http://www.clinicaltrials.gov">www.clinicaltrials.gov</a> (approved registries for clinical trials need to meet all of ICJME guidelines: <a href="http://www.icmje.org/recommendations/browse/publishing-and-editorial-issues/clinical-trial-registration.html">http://www.icmje.org/recommendations/browse/publishing-and-editorial-issues/clinical-trial-registration.html</a>)</td>
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Include as appropriate
Preferred video format: .mp4.
For SDC, video over 10 MB (up to 100MB): .wmv, .swf, .flv, mpg., .mpeg, m4v, .mov, .mp4. For video up to 10 MB .qt and .avi will also be accepted.

\(a\) **Level I.** Diagnostic study = randomized controlled trial; testing of previously developed diagnostic criteria. Prognostic study = inception cohort study. Therapeutic study = randomized controlled trial. Economic study = computer simulation model. **Level II.** Diagnostic study = prospective cohort study; development of diagnostic criteria. Prognostic study = prospective cohort study; control arm of randomized trial. Therapeutic study = prospective cohort study; observational study with dramatic effect. Economic study = computer simulation model. **Level III.** Diagnostic study = retrospective cohort study; case-control study; nonconsecutive patients; no consistently applied reference standard. Prognostic study = retrospective cohort study; case-control study. Therapeutic study = retrospective cohort study; case-control study. Economic study = computer simulation model. **Level IV.** Diagnostic study = case series; poor or nonindependent reference standard. Prognostic study = case series. Therapeutic study = case series; historically controlled study. Economic study = decision tree over the short time horizon with input data from original level II and III studies and uncertainty examined by univariate sensitivity analyses. **Level V.** Diagnostic, prognostic, and therapeutic studies = mechanism-based reasoning. Economic study = decision tree over the short time horizon with input data informed by prior economic evaluation and uncertainty examined by univariate sensitivity analyses.
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<td>Review</td>
<td>Reflect essential principles and information</td>
<td>Present brief overview, background information, statistics, and history</td>
<td>Review pertinent literature</td>
<td>Figures</td>
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<tr>
<td>Section: Standard Review</td>
<td>Provide facts, conclusions, and outcomes; avoid “we discuss” Be certain data agree with numbers and values in the text</td>
<td>Include rationale for importance, main points, information deficiencies, and/or differences of opinion</td>
<td>Use section headings (eg, Indications, Contraindications) Include, as applicable: controversy, treatment methods, basic science, authors' preferred treatment, complications Use generic names for drugs and devices Include P values and correlation coefficients Reiterate nature of problem, provide clear conclusion based on literature and author experience, suggest role for ongoing study and future directions Limit 40 references (≥25% published within past 5 years) Include levels of evidence</td>
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### Orthopaedic Advances

**Review Section:**

**See above**

**Present objective appraisals of recent or controversial techniques and new developments in orthopaedic surgery.**

**Address current trends or advances of brief clinical experience and few documented studies.**

**See above**

**Limit 20 references**

**Include levels of evidence**

### Surgical Techniques

**Review Section:**

**None**

**Present brief overview, background information, statistics, and history.**

**Include rationale for importance, main points, information deficiencies, and/or differences of opinion, surgical technique.**

**Use headings:**

- Introduction, Indications, Contraindications, Surgical Technique, Pearls and Pitfalls, Outcomes
- In the Surgical Technique section, use subheads Setup, Exposure/Approach, Technique, Closure, Postoperative Care/Considerations
- Discuss anatomic and biomechanical considerations
- Provide pearls and pitfalls in two bulleted lists

**Limit 30 references**

**Include levels of evidence**

**Video is strongly recommended**

**Describe indications and contraindications of technique.**

**No more than 5 to 10 minutes**

**Audio narration is required**

**Include title screen without identifying author, patient, or institution**

**Adhere to safety precautions and FDA guidelines for off-label use**

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*a Level I* Diagnostic study = randomized controlled trial; testing of previously developed diagnostic criteria. Prognostic study = inception cohort study. Therapeutic study = randomized controlled trial. Economic study = computer simulation model. *Level II* Diagnostic study = prospective cohort study; development of diagnostic criteria. Prognostic study = prospective cohort study; control arm of randomized trial. Therapeutic study = prospective cohort study; observational study with dramatic effect. Economic study = computer simulation model. *Level III* Diagnostic study = retrospective cohort study; case-control study; nonconsecutive patients; no consistently applied reference standard. Prognostic study = retrospective cohort study; case-control study. Therapeutic study = retrospective cohort study; case-control study. Economic study = computer simulation model. *Level IV* Diagnostic study = case series; poor or nonindependent reference standard. Prognostic study = case series. Therapeutic study = case series; historically controlled study. Economic study = decision tree over the short time horizon with input data from original level II and III studies and uncertainty examined by univariate sensitivity analyses. *Level V* Diagnostic, prognostic, and therapeutic studies = mechanism-based reasoning. Economic study = decision tree over the short time horizon with input data informed by prior economic evaluation and uncertainty examined by univariate sensitivity analyses.
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AAOS Appropriate Use Criteria
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Figures must meet the professional standards of the journal (ie, sufficient resolution and appropriate file format).

Acceptable formats are .tif, .eps, .jpg, .pdf, .ppt. Word (.doc) files are also acceptable.

Line art must be vector or have a resolution of at least 1200 dpi (dots per inch), and electronic photographs—radiographs, CT scans, and so on—and scanned images must have a resolution of at least 300 dpi. Photographs containing text must have a resolution of at least 600 dpi. If fonts are used in the artwork, they must be converted to paths or outlines or they must be embedded in the files. Cite figures consecutively on the site, and number them in the order in which they are discussed.
For additional assistance, please refer to the journal's Creating Digital Artwork file.

Each figure should be uploaded into Editorial Manager as a separate item, one file per figure. Do not embed figures in the manuscript. Color figures are encouraged and are published at no charge to the author.

A Figure Legend should be included in the manuscript, beginning on a new page after the References. Cover the following in the figure legend:

- **Identification**: Clearly convey what each figure depicts. Explain clearly in the legend any symbols, arrows, numbers, or letters used to identify parts of the figure. Identify the method of staining in photomicrographs and provide their magnifications.
- **Abbreviations**: Define all abbreviations used in each figure/illustration.

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Lettering should be the same font throughout all figures in the manuscript in the sans-serif typeface Helvetica, Medium, 8pt, sharp. Units, capitalization, etc, should follow JAAOS style (see www.jaaos.org) and refer to issues of the Journal published in 2015 through 2017. Arrows, arrowheads, and other symbols should be black or white, depending which is most visible against the image in question and sized to be visible but not to obscure or overwhelm the image. Leaders and rules should be 2.25 px.

Avoid headings on the figure. Heading information should appear in the figure legend. Label units of measure consistently with the text and legend. Follow the AMA Manual of Style for unit abbreviations.

For multi-panel figures, submit each part individually (eg, Figure 1A, Figure 1B, Figure 1C, Figure 1D), rather than as one block (eg, Figure 1ABCD). Similar panels should be consistent in size and uniformly set.

Supply a scale bar with photomicrographs.
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Algorithms
The flow should be logical and complete. Text is centered in boxes with one idea or point. Hanging indents are used for boxes with more than one idea or option (eg, treatment option).

Label leaders and algorithm leaders (rules) to boxes should be 10 px when the document DPI is 1200. Arrowheads are inserted only when a rule leads to a box with an action, such as a surgical procedure. Arrowheads for algorithm rules are to be created with 800% width, 650% length at 10 px. If a need arises to have an "algorithm box" in an image at 300 DPI the box should be created with a 3 px contraction in Photoshop. Label leaders (rules) should be 2.25 at 300 DPI.


The use of digital media for image acquisition and processing introduces the potential for inadvertent distortion of data. To prevent such distortion, the following guiding principles should be used:

1. Data should neither be added to, nor removed from, an image by digital manipulation. Images gathered at different times or from different locations should not be combined into a single image, unless it is stated that the resultant image is a product of time-averaged data or a time-lapse sequence. Figures assembled from multiple images must indicate the separation of the parts by lines and described in the legend.
2. The use of touch-up tools, such as cloning and healing tools in Photoshop, or any feature that deliberately obscures manipulations, is unacceptable.
3. Linear adjustment of contrast, brightness or color must be applied equally to controls and all parts of an entire image. Contrast should not be adjusted so that data disappear. Excessive manipulations, such as processing to emphasize one region in the image at the expense of others (e.g. through the use of a biased choice of threshold settings), is unacceptable, as is emphasizing experimental data relative to the control.

4. When submitting revised final figures upon conditional acceptance, authors may be asked to submit original, unprocessed images.

5. All image acquisition tools and image processing software packages used should be listed. Deviations from the above, including nonlinear adjustments, must be indicated in the figure legend along with a description of the processing software used.

Tables

Numbering: Number tables consecutively in the order cited in the text using Arabic numerals (e.g., Table 1, Table 2).

Formatting: Each table should begin on a new page. Supply a brief, descriptive title for each table. Provide each column with a short or abbreviated heading. Tables submitted as photographs are not acceptable. Do not repeat information in a table if data are already provided in the text. Do not prepare a table if your data can be reported in the text in one or two sentences.

References cited in tables: All references cited in tables must be included in the References list. References are numbered consecutively throughout the manuscript, including in tables. For example, if references 1 through 10 have been cited in the body of the manuscript and then Table 1, which has five not-yet-cited references, is called out in text, then those references in Table 1 should be numbered 11, 12, 13, 14, and 15. The next new reference cited in text after the Table 1 callout would be reference 16.

Footnotes: Place explanatory matter in footnotes rather than in the table title or column heading. Please define all abbreviations used in the table in the footnotes. If italics are used, specify the meaning of the italics in the footnotes.

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**Preferred video format:** .mp4

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**TIPS FOR SEARCH ENGINE OPTIMIZATION**

Search engine optimization (SEO) is the process of affecting the visibility of a website or web page on a search engine’s results page. Authors can play a decisive role in optimizing search results to make their articles more discoverable online.

Below are some useful writing tips to ensure that your article is visible and high-ranking in the search results of Google and other engines.

1. **Make the title of your article SEO-friendly**
The title of your article should be descriptive of its content and include keywords. Because only the first 65 characters (including spaces) are shown in Google search results, it is important to put your keywords within the first 65 characters of the title.

2. **Use headings**
Headings help readers as well as search engines like Google to better understand the structure and organization of your article. Be sure to include keywords and phrases in section headings where appropriate.

3. **Choose good keywords**
Appropriate keywords will help improve the visibility of your article via search engines. Keywords should accurately reflect the content of the paper. In crafting good keywords, think about your audience. Which words or phrases might a reader use to find the information in your article online using a search engine? You might also consider using sites such as Google Trends or Google Adwords to find out which search terms are most popular.

4. Optimize the abstract
In most cases, only the abstract of the paper will be “visible” to search engines. It is therefore important that the abstract accurately reflect the content of the entire paper by incorporating appropriate keywords and phrases throughout in a natural, contextual way.

5. Stay consistent in your language
In writing your paper, be sure to use terms and keywords in a consistent manner. Wherever possible, try to refer to these key terms in the same way they’ve been referred to in past online publications.

6. Cite previous publications
When appropriate, cite your own or your co-authors’ previous publications. Such citations will factor into how search engines will rank your current and future work.

7. Promote your article through social media
Another important way to ensure that your article is visible and discoverable online is to promote it through academic and social networking sites. Google and other search engines regard links as “votes” for web pages. Therefore, by creating inbound and outbound links to your article, you can help improve the ranking of your article in the search results. Recommended academic and social networking platforms include:
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