Ten Steps for Writing a Good Clinical Review Article:
A Workshop for New Authors

Sumi Makkar Sexton, MD
Kenneth Lin, MD, MPH, FAAFP
Barry D. Weiss, MD, FAAFP

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Sumi Makkar Sexton, MD

Editor-in-Chief, American Family Physician (AFP); President, Premier Primary Care Physicians, Arlington, Virginia; Associate Professor of Family Medicine, Department of Family Medicine, Georgetown University School of Medicine, Washington, DC

Dr. Sexton earned her medical degree from the University of Miami School of Medicine, Florida, and completed her training at the Georgetown University-Providence Hospital Family Medicine Residency Program, Washington, DC. In addition, she completed a faculty development/medical editing fellowship through Georgetown’s Department of Family Medicine. She sees patients ranging from newborns to older adults four half days a week at her private practice in Arlington, Virginia. Dr. Sexton regularly precepts medical students in her office. In addition to practice administration, her nonclinical time is spent managing the clinical content of AFP, which she has been editing since the late 1990s. She serves on the board of governors for Privia Medical Group and its National Clinical IT Advisory Council.
Kenneth Lin, MD, MPH, FAAFP

Professor of Family Medicine, Georgetown University School of Medicine, Washington, DC; Deputy Editor, American Family Physician

Dr. Lin earned his medical degree from New York University (NYU) School of Medicine and his Master of Public Health (MPH) degree from Johns Hopkins Bloomberg School of Public Health in Baltimore, Maryland. He completed a family medicine residency at Lancaster General Hospital in Pennsylvania, and a medical editing/faculty development fellowship at Georgetown University. From 2015 to 2017, Dr. Lin chaired the Subcommittee on Clinical Practice Guidelines of the AAFP's Commission on Health of the Public and Science. He posts regularly to “Common Sense Family Doctor,” his personal blog on health and conservative medicine, and serves as an expert video commentator for Medscape Family Medicine. Previously, he authored “Healthcare Headaches,” a consumer health blog for U.S. News & World Report. Dr. Lin is a nationally recognized speaker on the benefits and harms of cancer screening, medical writing and publication, and the uses of social media in health advocacy and policy.

Barry D. Weiss, MD, FAAFP

Professor, Department of Family and Community Medicine, University of Arizona College of Medicine, Tucson

Dr. Weiss earned his medical degree from the University of Buffalo School of Medicine, New York. After four years of Buffalo weather, he moved to sunny Tucson, Arizona, where he completed a family medicine residency at the University of Arizona, followed by several years of rural practice in the U.S.-Mexico border town of Nogales, Arizona. Subsequently, he joined the faculty at the University of Arizona, where he served for many years as clinical director, and then at the University of Texas Health Science Center at San Antonio, where he was chair of the Department of Family and Community Medicine. He then returned to the University of Arizona, where he has been working ever since.

Dr. Weiss has been a medical editor for much of his career. He was editor of the Society of Teachers of Family Medicine (STFM) journal Family Medicine for 18 years. He has been on the editorial staff of AAFP’s FP Essentials™ monograph series since 2000, serving as chief medical editor since 2007, and he is also an associate medical editor of American Family Physician. The author of more than 180 journal articles and several medical textbooks, Dr. Weiss has led writing workshops across the United States and around the world. He enjoys working with both experienced and novice authors.
Learning Objectives

1. Prepare for topic selection which includes reading journal articles on a condition or clinical question from your practice and learning how to review articles.

2. Understand the multiple steps involved in writing and submission.

3. Participate in group exercises on the topic of “hypertension in children” to apply the various steps in topic selection, literature search, review, and writing.

Audience Engagement System

Step 1

Step 2

Step 3
STEP 1

Prepare, Read and Consider Becoming a Reviewer

Read journals to become familiar with the style and content of articles before submitting.
Start as a Reviewer

- Insight to article type and style the journal receives
  - Learn more from being part of the process
- Reviews are worth CME!
- For American Family Physician:
  - Email afpjournal@aafp.org to sign up
  - Please recruit a topic expert or specialist colleague too

How to Complete a Great Review

- Evaluate strengths and weaknesses
- Read background articles
  - Expertise to intelligently review
- Do first review with a mentor
- Be thorough – review line by line
  - Look up resources – When you question a statement
- Provide constructive comments
- Don’t focus on grammar, focus on the science
Sample Review

33 Normal and elevated blood pressure values for children ages one through 12 are based on the normative distribution of blood pressures in healthy children, and should be interpreted on the basis of sex, age, and height. Beginning at age 13, the values and staging scheme closely match the 2017 American Heart Association and American College of Cardiology adult hypertension guidelines.8

Lines 33-35 - This statement should have a citation and a link as it would be helpful to share with readers the actual tables of values showing the normative distribution of blood pressures in healthy children based on sex, age and height. Reference 8 is the AAP clinical guideline which contains the tables and not the AHA/ACC guideline. Please fix citations.

Sample Review

38 Hypertension in children and adolescents is further characterized as either primary (essential) or secondary. Secondary hypertension has an underlying cause that is identifiable and may be treated, while primary hypertension is a diagnosis of exclusion when an underlying disorder cannot be found.9,10 While secondary hypertension was previously more common among children, primary hypertension now comprises a majority of childhood hypertensive diagnoses.11

In lines 40-42, the reference (11) indicates that primary hypertension is more commonly seen in referral centers than secondary hypertension; is this also true in primary care settings?
STEP 2

Topic Selection for Review Article

Select a Topic

- Symptom/condition is common and relevant
- Familiar topic, clinical experience
- Avoid too broad, too narrow, subspecialty-oriented
- Read articles on the topic to be current and know gaps in the literature
Poll Question 1

Which one of the following topics would be most appropriate to write about for an FP audience?

A. Association of Obesity and Hypertension in Children
B. Evaluation and Treatment of Hypertension in Children
C. Renovascular Hypertension in Adolescent Females
D. Benefits of Minoxidil in Children with Hypertension

TOPIC SELECTION

• Diabetes
• Osteoporosis
• Pheochromocytoma
• Invasive Fusariosis with Osteomyelitis in Uncontrolled Diabetes
• Health Issues for Surfers
• Topics you are interested in?
STEP 3

Develop the Main Points of the Article

Main Points

• Articulate the main point in one or two sentences
• Consider how the article will affect clinical practice
• Try it out on a colleague who will be critical
ARTICULATE THE MAIN POINT

Topic: Hypertension in Children and Adolescents
  What would your main point be?
  What would readers want to know?

STEP 4

Select the Correct Journal
Journal Selection

Evaluate the content and style of various journals and look for a good fit

American Family Physician

- AFP solicits majority of articles based on curriculum of topics
- Authors who propose topics are provided with guidance
  - Format, scope and similar AFP articles.
- Blindly submitted articles rarely accepted.
STEP 5

Information for Authors

Review the Information for Authors

• Avoid duplicate topics and wasted effort
• Contact the journal to propose a topic
• Review the author instructions for guidance on style, length and format
• https://www.aafp.org/journals/afp/authors/guide.html
STEP 6

Identify a Mentor or Experienced Coauthor

Identify a Mentor

• Work with a mentor who has significant publication experience
• Consider writing for other features in the journal first
  • https://www.aafp.org/journals/afp/explore/departments.html
  • https://www.aafp.org/journals/afp/authors/guide/departments.html
STEP 7

Literature Review

Types of Reviews

• Clinical review - broad summary discussion of a topic based on a selective literature review
• Systematic review - synthesis of the evidence on a narrow aspect of a topic based on a comprehensive literature review
Literature Review

• Identify key clinical questions on the topic
• Use systematic reviews (Cochrane), meta-analyses, evidence-based guidelines, clinical decision rules, RCTs to answer them
• Avoid citing review articles, textbooks, anecdotes, conventional wisdom
• https://www.aafp.org/journals/afp/authors/guide/manuscript.html

Literature Review Exercise
Poll Question 2

Which one of the following is the best resource to cite for your literature review?

A. Review article on diet and hypertension in children
B. UptoDate section on management of hypertension in children
C. Meta-analysis of racial difference in response to ACE inhibitor therapy
D. Case series of seven hypertensive children who completed an intensive lifestyle program

STEP 8

First Draft
First Draft

- Conceptualize the paper in your mind
- The lead sentence of each paragraph should tell the story
- The main points should be summarized in the abstract
- Make sure the article is easy-to-read
- Don’t forget to use spell-check and grammar-check

STEP 9

Share the Draft with Your Mentor or Coauthor
Share the Draft

• Request and expect honest, brutal, critical comments
• Need others to identify weaknesses before submitting
STEP 10

Multiple Revisions

• Revise the paper in response to feedback
• Put the article away and read it again
• Review author instructions again
• Submit the final product
Practice Recommendations

• Search the literature to answer clinical questions about a topic in your practice
• Apply new knowledge to your practice
• Become a reviewer for a journal you read regularly
• Write an article on a topic you have seen in your practice to share important updates with colleagues
• New reviewers and authors should work with a mentor or experienced colleague

GROUP EXERCISES
Measurement and Detection of Elevated Blood Pressure

In 2013 the United States Preventive Services Task Force found insufficient evidence to recommend blood pressure screening in children. AAP guidelines from 2017 recommend measuring blood pressure annually beginning at age three. Measurements at every encounter should be performed on children and adolescents who are obese, have kidney disease, aortic arch obstruction, coarctation, diabetes, or take any medication that could increase blood pressure. Children younger than three should have their blood pressure measured if underlying medical conditions increasing their risk for hypertension.

Accurately measuring blood pressure in children and adolescents is challenging due to finding approximate cuff size for arms that are tiny and less tiny.
MEASUREMENT AND DETECTION OF ELEVATED BLOOD PRESSURE

In 2013, the U.S. Preventive Services Task Force and the American Academy of Family Physicians cited insufficient evidence to recommend screening for high blood pressure in average-risk children.\textsuperscript{20,21} Based primarily on expert opinion, the 2017 AAP guidelines recommend measuring blood pressure annually beginning at three years of age, and the 2016 European Society of Hypertension guidelines recommend screening every two years beginning at three years of age.\textsuperscript{8,11} Measurements should occur at every health care encounter in children and adolescents with risk factors (i.e., those who are obese; who have known kidney disease, aortic arch obstruction, coarctation, or diabetes mellitus; or who are taking a medication known to increase blood pressure).\textsuperscript{8,11} Blood pressure should be measured in children younger than three years only if they have risk factors for hypertension, which includes the same risk factors as older children in addition to prematurity, a family history of congenital renal disease, a history of organ or bone marrow transplant, malignancy, elevated intracranial pressure, and systemic illnesses known to increase blood pressure.\textsuperscript{8}

Causes of inaccurate blood pressure measurements include positioning, anxiety, caffeine and time of day. For an accurate reading, the patient should sit for 3-5 minutes with back support and feet flat on the floor.\textsuperscript{19} Width of the cuff inflatable bladder should be 40\% of arm circumference, and length should be 80\% of arm circumference, as in figure 1. Blood pressure should be measured in the right arm at heart level, as the left arm would be problematic in aortic coarctation. Physicians caring for children and adolescents must own blood pressure cuffs of varying sizes. The initial blood pressure reading can be taken by auscultation or with an oscillometric device. Automatic blood pressure devices can overestimate blood pressure values, therefore an elevated BP reading requires at least two auscultatory verification measurements.\textsuperscript{20,21}
Obtaining an accurate blood pressure measurement in children and adolescents can be challenging given the variance of blood pressure with cuff size, anxiety level, caffeine intake, time of day, and patient positioning. For the most accurate reading, the patient should be sitting quietly for at least three to five minutes with his or her back supported, and feet uncrossed and flat on the floor. An appropriate-sized cuff should be used, with an inflatable bladder width that is at least 40% of the arm circumference and bladder length that is 80% to 100% of the arm circumference. Arm circumference is measured at a point midway between the acromion and the olecranon (Figure 1). Blood pressure should be measured with the arm supported at the level of the heart. The right arm should be used because coarctation of aorta may lead to falsely low readings in the left arm. Physicians who care for children and adolescent patients must have access to cuffs of varying sizes to ensure an appropriate fit.

TREATMENT

Children should be treated to <90th percentile of sex, age height or <130/80 if lower.8

Lifestyle Modifications

Hypertensive children should use lifestyle changes to lower blood pressure and prevent development of additional CVD risk factors. Weight loss should be encouraged in overweight or obese children, with obese children referred to comprehensive, intensive, family-oriented behavioral intervention programs.8 No evidence exists for the duration of trials, but we suggest 3 to 6 months.

Regular physical activity leads to lower blood pressure, and children should engage in 30 to 60 minutes of activity 3 to 5 days per week.8,26
**Treatment**
For children and adolescents, the blood pressure goal is less than the 90th percentile for age, height, and sex for patients younger than 13 years, or less than 130/80 mm Hg for those 13 years and older.8

**LIFESTYLE MODIFICATIONS**
All children with elevated blood pressure or hypertension should make therapeutic lifestyle changes (Table 4) to lower blood pressure and reduce the risk of developing additional CVD risk factors.8,29-34 Weight loss should be encouraged for children who are overweight or obese, and those who are obese should be referred for comprehensive, intensive, family-oriented behavioral intervention programs.8 There is no evidence-based guideline to recommend a specific length for a lifestyle modification trial, but various research studies suggest a period of three to six months is sufficient to determine likely effectiveness.8 Regular, sustained physical activity is most effective at lowering blood pressure, and children and adolescents should engage in 30 to 60 minutes of moderate to vigorous physical activity at least three to five days per week.8,29

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129 One study showed a systolic blood pressure decrease and a decrease in hypertension among obese pre-pubertal children who exercise 60 minutes 3 times per week over a 3 month period.26 Children up to stage 2 hypertension are eligible for competitive sports.132 Many components of the Dietary Approaches to Stop Hypertension (DASH) diet lower blood pressure.27,28 Patients should increase fresh fruits, vegetables, fiber, and low-fat dairy while reducing sodium intake.8

135 Although little data suggests stress reduction techniques decrease blood pressure in children and adolescents evidence is growing.29
One study demonstrated that exercising for 60 minutes three times per week over three months leads to an average seven-point decrease in systolic blood pressure and a 12% decrease in the rate of hypertension among prepubertal children who are obese.\textsuperscript{29} Children with elevated blood pressure, stage 1 hypertension without end organ damage, or controlled stage 2 hypertension are eligible for participation in competitive sports.\textsuperscript{35} Multiple aspects of the Dietary Approaches to Stop Hypertension (DASH) diet have been associated with lower blood pressure in children and adolescents.\textsuperscript{30,31} Children with hypertension should be counseled on striving for a diet high in fresh fruits and vegetables, fiber, and low-fat dairy in addition to a reduction in sodium intake.\textsuperscript{8,11} There are scant but growing data that complementary medicine techniques for stress reduction (e.g., breathing awareness meditation, yoga) may decrease blood pressure in children and adolescents.\textsuperscript{32}

**SORT RECOMMENDATIONS**

• What is SORT?
• SORT recommendations should reflect article main points
### Strength of Recommendation Taxonomy (SORT)

- Select 3 or 4 important clinical points to highlight
- Rate them based on evidence:
  - A – Consistent and Good Quality patient-oriented evidence
  - B – Inconsistent or Limited Quality patient-oriented evidence
  - C – Consensus, opinion, disease-oriented evidence, case series
- Include a column of comments to describe the evidence


### Recommendation Table

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Rating</th>
<th>Reference</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children should have blood pressure measured annually beginning at three years of age. Measurement should occur at every health care encounter in children who are obese; who have known kidney disease, aortic arch obstruction, coarctation, or diabetes mellitus; or who are taking a medication known to increase blood pressure.</td>
<td>C</td>
<td>8</td>
<td>Based on clinical practice guideline</td>
</tr>
<tr>
<td>When available, ambulatory blood pressure monitoring should be used to confirm hypertension in children and adolescents.</td>
<td>C</td>
<td>8-10, 22, 23</td>
<td>Based on practice guidelines and expert opinion</td>
</tr>
</tbody>
</table>
Questions

Resources

Reviewer’s Guide:
• https://www.aafp.org/journals/afp/reviewers/guide.html

Department Guide:
• https://www.aafp.org/journals/afp/explore/departments.html
• https://www.aafp.org/journals/afp/authors/guide/departments.html

Author’s Guide:
• https://www.aafp.org/journals/afp/authors/guide.html
• https://www.aafp.org/journals/afp/authors/guide/manuscript.html
Resources

• Article on Hypertension in Children: https://www.aafp.org/afp/2018/1015/p486.html
• AAFP Clinical Guideline on Hypertension in Children: https://www.aafp.org/patient-care/clinical-recommendations/all/hbp-child.html
• AAP Practice Guideline Summary: https://www.aafp.org/afp/2018/0415/p543.html

Contact Information

Sumi Sexton, MD
makkars@Georgetown.edu
@ssextonmd

Kenny Lin, MD
kwl4@Georgetown.edu
@kennyлинаfp

Barry Weiss, MD
bdweiss@email.arizona.edu