

Guidelines for Writing an Audiology Case Study

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Case studies provide accurate and complete accounts of patient symptoms, history, care, potential complications, treatment alternatives, and preventive medicine and disease avoidance. Some highlight the clinical findings in a patient with a rare disease or disorder. A published case study may be used to reinforce best practices, report alarming observations in a patient encounter, and convey important clinical knowledge. Case studies may also contribute to improving the safety of our patients. In preparation for a new section in *The Hearing Journal* that will feature audiology case studies, we outline the structure and necessary components of an audiology case study.

WHAT'S A CASE STUDY?

As far back as the 1800s, case studies (also called case reports) became established as a popular tool for medical training. At that time, a case study was intended to accumulate knowledge of clinical issues, diagnostic methods, and treatments. They were primarily written to provide an educational message about the etiology and pathogenesis of diseases and disorders, as well as improvement of patient care. Today, case studies serve the same educational functions.

Any component of a written clinical note about a patient can form the basis of a case study, such as an unusual patient complaint, atypical test findings, a rarely encountered diagnosis, or even a novel treatment plan. Fundamentally, a case study should tell a succinct story about the patient that may be readily consumed by clinicians, students, researchers, therapists, allied health personnel, and, on occasion, manufacturer representatives. Although a bell curve is commonly used to represent patient outcomes on a distribution, we accept that, for various reasons, some patients lie somewhere on the tails of the curve. These outliers often become the subjects of case studies.

Audiologists frequently say, "Two patients with the same audiogram do not always have the same complaints." The opposite is also true. Two patients with similar chief complaints and histories may, in fact, have very different diagnoses. These nuances may be captured in a well-presented case



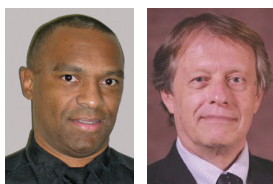
study. Clearly, not every patient experiences the same progression of hearing loss, vestibular disease, or tinnitus, or the same degree, type, and pattern of hearing loss or related disorder. Large clinical research studies are not practical for diagnosis and treatment of every clinical condition, particularly ones with multiple factors at play.¹ Controlled experimental trials usually report group-level data that may not be applied to or clinically relevant for all patients. Indeed, statistically significant findings in a large research study of people with a particular disorder may have absolutely no clinical significance to the assessment and management of individual patients with the same disorder. In contrast, published case studies are invariably clinically relevant and instructive.

HOW TO GET PUBLISHED

A major advantage of a published case study is the modest manuscript length, especially when the subject is a single patient. In most medical specialties, published case studies are brief and about issues related to one patient. Audiology case studies tend to be more extensive with substantial literature review. Some even include multiple patients, or are included as part of a research report.

The challenge in preparing a case study is to concisely and briefly tell an adequately detailed clinical story about a patient. Overall, a case study must be no less than 750 words and no more than 1,400 words. Table 1 summarizes guidelines for submission of case studies for publication in *The Hearing Journal*. This should make the task of writing the manuscript more tolerable for audiologists. Clinicians will enjoy an article that is organized, succinct, and contains a compelling educational message. To reach this goal, a case study manuscript should include some or all the components described below.^{2,3}

Published case studies are a practical and clinically useful venue for disseminating important information about the




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Table 1. The Hearing Journal's Case Study Writing Guidelines

<p>BASIC REQUIREMENTS</p> <ul style="list-style-type: none"> • A total of 750 to 1,400 words (excluding references) • No more than two figures/tables/images • No more than 15 numbered citations (in superscript format), with a reference list in chronological order (Vancouver System) • Author headshot and a two- to three-sentence biographical sketch <p>COMPONENTS</p> <p>Title</p> <ul style="list-style-type: none"> • Short, straightforward yet descriptive. • Ten-word limit to make the article more easily searched <p>Abstract</p> <ul style="list-style-type: none"> • Present the most important features of the case, namely, the clinical issue and learning points, to draw readers to the article. • Present the clinical or diagnostic problem in no more than two sentences, emphasizing why the case is relevant. • Limit the abstract to one paragraph or 150 words. <p>Keywords</p> <ul style="list-style-type: none"> • Select a few keywords to refine the article search. <p>Introduction</p> <ul style="list-style-type: none"> • Center the reader on the primary objective, like the title and abstract. • Demonstrate the purpose of your case study, the reason it was written, and, if possible, the prevalence rate associated with the disease, disorder, injury, or condition. • Clearly state your educational message. • A brief review of the pertinent literature may be included, referencing relevant and recent research on the topic. • Limit the Introduction to one or two paragraphs. <p>Case Presentation</p> <ul style="list-style-type: none"> • Chronologically deliver any pertinent clinical details associated with the patient, including medical/social/family history, examination data, outcome measurements, and/or treatment regimens. Always maintain patient confidentiality. • If indicated, demonstrate the effect, including unanticipated effect, of treatment. • Describe your preferred treatment protocol and the patient's condition when the manuscript was written. • Explain why your case is relevant, what influenced your decisions, and how you reached your final diagnosis. • Use tables, figures, images, or videos to support your case presentation (see above limitations). • Commit at least two paragraphs to the case presentation. <p>Outcome (Follow-Up)</p> <ul style="list-style-type: none"> • Information on outcome or follow-up can be incorporated into the case presentation, or presented alone in a subsequent section of the manuscript. • If the patient was seen for follow-up, describe any clinical differences and present outcome data if available. • Present the timeline and duration of follow-up for your reader. 	<ul style="list-style-type: none"> • Limit this section to one paragraph unless this is the main purpose of the case study. <p>Discussion</p> <ul style="list-style-type: none"> • The most demanding, yet often interesting and engaging, part of the case study is the discussion. Present the age, sex, ethnicity, and occupation of the patient, followed by the most important diagnostic and treatment observations. The case should be compared to any evidence in the literature about the diagnosis, illness, injury, or treatment. If a treatment or clinical procedure is the focus of your case, a causal and temporal relationship must be shown. • Maintain patient anonymity. • Make a compelling argument about your clinical disposition of the patient. • After presenting the patient's symptoms, describe any supporting evidence used to reach the final diagnosis, including any similar case publications. • You may explain why other diagnoses were not selected. • Present any limitations or weaknesses of your case study. • Limit yourself to two to four paragraphs. • Cite and summarize any relevant clinical practice guidelines if applicable. <p>Take-Home Message/Points (Conclusion)</p> <ul style="list-style-type: none"> • Conclude with a statement derived from the evidence provided in foregoing sections of the manuscript. • Provide a list of three or four important take-home points that clinicians should glean from your case. This should be the closing message that you want the reader to take from the case study and apply in clinical practice. • Limit the conclusion to one paragraph. <p>References</p> <ul style="list-style-type: none"> • As noted in the length summary above, include no more than 15 citations formatted in Vancouver style. • Emphasize more recent, peer-reviewed articles. <p>Tables/Figures/Images/Videos</p> <ul style="list-style-type: none"> • Describe the table, figures, images, and videos within the text, but place them at end of the manuscript. • Tables and figures should be easy to understand, and they should contribute to the reader's understanding of the paper. Captions should be short but precise. • Limit yourself to two tables, figures, images or videos. • If a photo of the patient is used, the patient's eyes must be concealed, and the image made unidentifiable. • All protected health information must be removed. <p>Patient Permission</p> <ul style="list-style-type: none"> • Consent is required prior to publication of the case study.⁴ • Complete the Case Study Consent Form available on <i>The Hearing Journal</i> website, obtaining appropriate signatures from patients or the parents or legal guardians of children and other vulnerable patients who are unable to consent directly. • Allow the patient or family member to provide feedback on the manuscript and their experience in the clinic.
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assessment and management of people with hearing loss and related disorders, including auditory processing disorders, tinnitus, disorders of decreased sound tolerance, and vestibular problems. Case studies allow us to highlight those unique differences and findings that we observe in our patients and our patient populations. A case study may serve as a training tool for students and junior clinicians. Used this way, they can enhance clinical learning, and serve as a catalogue of our experiences. Published case studies may be used to advance

an audiologist's career. In some instances, a case study may stimulate research, such as large experimental studies. Finally, case studies may focus on actions taken in the clinic that demonstrate safer examinations and treatments of audiology patients. 

References for this article can be found at <http://bit.ly/HJcurrent>. See the case study writing guidelines at bit.ly/HJGuidelines. Download the Case Study Consent Form at bit.ly/HJConsentForm.