

How to Write an Abstract

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This paper describes the elements required for an abstract to be accepted for poster or oral presentation of clinical or laboratory research for a conference, such as the Canadian Association of Wound Care (CAWC) conference.

An abstract is a precise, accurate, comprehensive summary of the contents of a presentation or poster. There are essential criteria required for abstracts.¹⁻⁴ Authors commonly leave out important details, which creates ambiguity.

A well-written abstract will convey the rationale for and purpose or objective of a research project as well as the methodology employed and the results and conclusions of the project, within the given word limit. Authors are advised to review and follow carefully the specific conference guidelines for abstract preparation, such as the number of words. This information can be found on most conference Web sites or can be obtained from conference organizers. The clarity of the words utilized in an abstract is extremely important to ensure that the reader is able to interpret the meaning of the research accurately. An abstract is a summary of research that has been completed; it is not an advance description of research to be done.

The essential components that are required when preparing an abstract are indicated as follows and illustrated in Abstract 2 (see page 33). For clarity, headings have been used in the abstracts in this paper. Sometimes, headings are requested in abstract guidelines, sometimes their use is discouraged, and often the author decides whether or not to use headings.

Title: The title should be succinct but explanatory and should reflect the project's objectives.

Author(s): (Follow conference guidelines for correct

format.) All listed authors should have contributed to the project.

Introduction/rationale: Provide one sentence that concisely describes the topic to be investigated and the rationale for the study. This will lead to the purpose or research question raised by the literature and prior work.

Purpose or Objectives: One sentence (or two) describing the specific question you are investigating. Broad descriptions should be avoided, and this section should not contain a repetition of the title. Include information in terms of the population, intervention, control group, and outcome to be measured.

Method: A succinct description of the research in one or two sentences describing the study design and methods. Specifically, describe the patient population and sample size, appropriate control group, randomization of subjects, assessments procedures to ensure they are not biased (blinding), outcome measures (valid and reliable), the intervention and control intervention. A common mistake in writing this section of the abstract is to omit important details.

Results: Write one or two sentences about the results that correspond with the purpose or objectives of the study. Be specific. State only your main point(s). Usually, one is required to know the results of the study by this time and to report the actual numbers, indicating what statistical tests were utilized and the level of significance achieved. If the results are not included or if the author states that the results will be reported, the abstract might be rejected. This tends to be the area where most authors omit information that is critical for the reviewer who is selecting abstracts for presentation. The most common weakness in this section is the lack of results and statistical information when discussing the results.

Editor's note: Although this article is based on the requirements for Clinical or Laboratory Research abstracts, it can be used, with modifications, for abstracts in other categories.



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Conclusions: Write a single sentence that summarizes what you found, the implications (clinical usefulness) of your findings, and the future application.

The table below shows the CAWC abstract guidelines, indicating that the abstract content addresses four questions. The second column indicates the specific information.

Abstract 1 is a fictitious example of an abstract that has errors throughout. The reader is encouraged to review this abstract, identifying the areas of weakness.

Flaws⁵ in Abstract 1 include the following:

- The introduction to the topic is too long.
- The purpose is stated in the methods.
- The methods section lacks details (randomization, description of population, description of methods of application, how wounds were assessed and by whom).
- The results section lacks detail about wound-assessment outcomes and statistical tests.
- The conclusion is stated within the results section.
- The acknowledgement suggests a conflict of interest.

Abstract 2 is a fictitious example of an abstract that has few flaws. The reader is encouraged to review this abstract, identifying appropriate elements.

Appropriate elements of Abstract 2 are included below:

- The title describes the study design and objectives of the project.
- The introduction to the topic describes the topic to

be investigated and the rationale for the study (circumstantial evidence).

- The purpose describes the specific question in terms of the population, intervention, control group, and outcome.
- The methods section (although too long) describes the patient population, sample size, control group, randomization, outcome assessment procedures using reliable measures, the experimental and control interventions.
- The results section answers the question raised in the purpose of the study, indicating the level of significance achieved.
- The conclusion summarizes the result, indicating its importance, and includes areas for future investigation.
- The acknowledgement suggests no conflict of interest. ☺

References

1. Writing Abstracts in Physics. www.pls.uni.edu/couch/abstracts.htm. Accessed December 18, 2004.
2. How to Write an Abstract. www.uaf.edu/csem/ashsss/abstract_writing.html#title2. Accessed December 18, 2004.
3. How to Write an Abstract for the Undergraduate Research Conference. http://urc.ucdavis.edu/urc_writing.html. Accessed January 9, 2005.
4. Writing Conference Abstracts. <http://courses.essex.ac.uk/LG/LG554/WritingAbstracts.html>. Accessed January 9, 2005.
5. Woodbury MG. Research 101: Developing Critical Evaluation Skills. *Wound Care Canada*. 2004;2(2):32-38.

Four Key Questions	
Abstract content addresses four questions	Specific information to include
What was the problem?	Project topic introduction including rationale for the study (one sentence) and specific purpose of the study (one sentence).
How did the authors solve it?	Methods—study design, number of subjects, characteristics of the population, interventions (frequency, etc.), outcome measures (how and when they were collected) (one to two sentences).
What was discovered?	Results—main findings, specifically stated, with level of statistical significance; to answer question raised by the study purpose (one to two sentences).
What can be learned from the experience?	Conclusions, importance of findings, clinical applicability (one sentence).

ABSTRACT 1

Effect of Chocolate Growth Factor K1TKαT in Healing of Chronic Pressure Ulcers

Authors: Patricia Hamberg, Victoria McNeil, Georgia Wallace, George Smith.

Epithelialization is the resurfacing of a granular wound bed by epithelial cells. It is a vital occurrence in the progression of a wound to healing. There are two main theories associated with re-epithelialization: the Skating Theory and the Leap Frog Theory. The Skating Theory suggests that epithelial cells “skate” across the surface of the wound making their way to the farthest point and establishing a bridge. From this bridge, new epithelial cells can begin to “skate” across the surface of the wound establishing new bridges as they go. The Leap Frog Theory suggests that one cell moves out from the edge followed by a new cell that upon reaching the first cell actually springs forward to a new spot. Each succeeding cell “leaps” from cell to cell until there is not a cell to receive it and it is in its turn fixed in place ready to be a launch pad to a new cell.

Clinical observations have noted that certain types of wound dressings exhibit an enhancement of the re-epithelialization process that occurs during wound healing.

Methodology: To investigate these findings, a novel epithelial stimulant K1TKαT growth factor was applied to five patients of Dr. Hamberg’s with Stage II pressure ulcers and the appearance of the wounds was assessed.

Results: Three of the five patients who received this treatment showed better wound appearance and improved cell migration in response to the K1TKαT growth factor dressing protocol. Results demonstrate that K1TKαT produces a significant improvement in the healing rate of chronic wounds. This K1TKαT growth factor is an exciting new treatment that should be considered for patients with chronic wounds to encourage re-epithelialization and the leap frog effect.

Acknowledgements: Dr. Hamberg was funded by Hershey Inc. to prepare this presentation and to attend this conference.

ABSTRACT 2

Randomized Controlled Trial of the Effect of Chocolate Growth Factor K1TKαT in Healing of Chronic Pressure Ulcers

Authors: Patricia Hamberg, Victoria McNeil, Georgia Wallace, George Smith.

There is circumstantial evidence that chocolate containing K1TKαT growth factor may increase proliferation of epithelial tissue in partial thickness wounds according to Cadbury, 1985.

Purpose: The ability of K1TKαT growth factor, versus no growth factor, in accelerating wound closure of Stage II pressure ulcers in elderly adult individuals with spinal cord injury (SCI) was investigated.

Methodology: Forty subjects (54–74 yrs old) with C4–C6 complete SCI who had Stage II pressure ulcers for at least six months who met standardized inclusion/exclusion criteria volunteered to participate in the study. They were randomly assigned to receive either K1TKαT growth factor (one mg/ml) administered daily via a gauze dressing or an identical dressing without K1TKαT. All subjects in both groups had similar protocols of standard wound care, including pressure off-loading, nutritional intake, and daily activity during the 15-day treatment period. Healing was assessed at baseline, at five, 10 and 15 days of treatment by an assessor, who was blinded to group allocation, using a digital Dukassy wound measurement device, which previously was shown to reliably assess wound re-epithelialization. The proportion of wounds that were re-epithelialized was compared between groups using Chi square.

Results: Significantly more subjects in the K1TKαT chocolate growth factor group, 17 of 20 versus eight of 20 subjects who were treated with only gauze dressings, had complete re-epithelialization by day 15 of treatment ($p=0.003$).

Conclusion: The addition of K1TKαT growth factor to traditional gauze-based wound treatment may lead to faster closure of Stage II pressure ulcers in the elderly patients with complete C4–C6 SCI. Shorter time with pressure ulcers would improve quality of life and reduce the cost of care. Further research is warranted to confirm these findings and determine if other patient populations, such as elders living in a nursing home, may benefit from this “sweet” treatment.

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