

How to Write an Academic Poster: Top tips for medical students



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Abstract

Academic posters are a creative and useful method of displaying work at conferences. Posters are a summary of research projects, which aim to dissipate advancement amongst the scientific community and showcase the importance and relevance of new work in the field. Successful posters stimulate discussion, encourage collaboration and generate further ideas for research. In this article, we present our advice on creating effective posters, including preparation and layout tips.

1 What is the purpose of an academic poster?

Academic posters give you the opportunity to summarise your project into a concise and aesthetically pleasing format to share with the scientific community (Gundogan, Koshy, Kurar, & Whitehurst, 2016). Posters enable you to present your research at conferences in a clear and simple manner whilst highlighting key points from your work.

2 What do I need to know before I start?

Ensure that you know who your audience at the conference consists of, so you can pitch your presentation to the appropriate level and decide the most salient points to include on your poster. Read the author guidelines issued by the conference and check whether there is a specified size (usually A0 or A1) and orientation (landscape or portrait) (Gundogan et al., 2016). It is important to set aside an adequate amount of time to prepare your poster and incorporate feedback from your supervisor and research team (Goodhand et al., 2011).

3 How should I prepare my poster?

Microsoft PowerPoint is the most commonly used application for creating posters as you can set the page to the required poster size ready for printing (Gundogan et al., 2016). Check your university intranet for ready-made templates that you can adapt for ease. Programmes such as Canva, Adobe InDesign and Adobe Illustrator can also be used if you want to be more creative or create highly specific illustrations to convey information. Choose a logical structure for your poster, begin with aims and objectives, flowing downwards to methods, results and conclusions (Shelledy, 2004; Taggart & Arslanian, 2000; Tasker, 2013). Most readers tend to read the poster from top to bottom and left to right.

To begin, plan the information that you want to include within the poster and highlight key points (it may help to speak to a supervisor to identify these). When writing, you should use the active tense ("We did this") and only consider using medical abbreviations where appropriate and easy to understand (Tasker, 2013). Also, try to avoid long sentences and large chunks of writing (Gundogan et al., 2016). To make titles stand out and allow readers further away to follow the

structure, you can make them bold. Many readers will quickly read over your poster from a few feet away and it is important they are still able to read your key points (Tasker, 2013). You should ensure that text size is appropriate, with the main title above 85 point and a size of 24-34 for the main text (Tasker, 2013), additionally, use a clear font such as Arial or Calibri. If possible, substitute words for images and graphics as these are more appealing and concise, and provide a visual means of presenting results and drawing conclusions (Shelledy, 2004; ?). Continue to edit your poster and ask for feedback from peers and your supervisor until you are satisfied that all text is useful and relevant to your overall message.

Try to avoid overly embellishing your poster with formatting and pictures (Gundogan et al., 2016). Select a simple colour system with contrasting colours, but remember that light backgrounds are reader friendly and print better (Goodhand et al., 2011; Gundogan et al., 2016; Shelledy, 2004; ?). It is best to use 2-3 colours and avoid using patterned backgrounds. Avoid using colours that colour blind readers are unable to see (most commonly it is difficult to distinguish red from green) (Tasker, 2013). Ensure that you insert logos for the location and institution where research was conducted and, if needed, include logos from sponsors. It is also worth checking with your supervisor whether your host organisation can aid with printing costs.

You may wish to print several copies of your poster in A4 for those interested in taking a handout home with them. It is important to ensure your contact details are available to the reader on your poster (an e-mail address) and included on any handouts so they can contact you with any future questions.

4 How should I organise my poster?

Title

Use a large font size (largest size on your poster) and keep it short and focused, between 10-12 words maximum is suggested (Tasker, 2013). You may wish to include the type of research within the title, for example: 'A randomised control trial investigating the use of aspirin as a preventative treatment for heart disease' or 'The effect of the coronavirus pandemic on medical students' mental health - a qualitative study'. All authors, including their affiliations, should be listed below the title, with the most senior author at the end (Gundogan et al., 2016).

Introduction

Describe the background to your project, including the rationale and project objectives (Gundogan et al., 2016). Explain how your work is novel in the field and explain how it differs to existing literature.

Methods

Identify your target sample, setting, duration of the study, inclusion/exclusion criteria, statistical techniques used and primary and important secondary outcomes measured. A flowchart or diagram can be helpful in presenting the methodology visually. Bullet point lists can be used to reduce words if you are struggling for space.

Results

Include any important raw results which address the objectives stated and statistical test summary values (Gundogan et al., 2016). Use graphs, tables, images and diagrams to summarise

and present the data. Ensure any images are high resolution files such as JPEG (.jpg). Use appropriate captions and figure legends to explain your tables and diagrams. Remember to include units and label axes on graphs clearly. Avoid grid lines on graphs as this detracts from the plotted points.

Conclusions

Your conclusions should be supported by the data presented in the results section and answer the objectives of the project. This should be summarised in a few sentences (Gundogan et al., 2016). It is insightful to acknowledge the limitations of your research, suggest areas for improvement and implications on practise. It is also useful to identify areas for possible future research to explore.

References

To finish, include a textbox with your reference list citing key sources of information (around five references is ideal) (Tasker, 2013). These are written in a smaller, but still readable font, often using a numerical in-text referencing system to reduce space used. Acknowledge any funding or support received for your research.

See appendix A and appendix B for templates of portrait and landscape posters.

5 How should I prepare for my presentation?

Practise, practise, practise! Present to your friends (medical and non-medical) and ask for feedback. Try and schedule a time to present to your supervisor too. Ask everyone you practice with if they have any questions about your research and think of possible questions yourself.

Presentations tend to last under 10 minutes, with some time for questions. Ensure you stick to the set timing which should be available on the conference website. Guide your reader through the poster in a chronological order and set the scene well. Keep the presentation focused and highlight key points and results. Explain how your work is relevant to current practice and the contribution it has made. It is also important to acknowledge limitations of your work and how further research could build on your findings in the future.

Make sure you understand all of the information on your poster and that you have checked for any spelling and grammatical errors. This is easily done by using the inbuilt spell check function on programmes such as PowerPoint.

6 What will happen on the day?

Ensure that you arrive on time and bring pins, tape or other items to help stick the poster up. Pin a plastic wallet to the board to hold the A4 handouts of your poster for your readers to take away with them. Often poster presentations occur during breaks at conferences, so ensure you are at your poster and ready to engage with other conference attendees.

You must arrange to be by your poster when the judges inspect the poster so you can present and answer their questions. Dress smart and look the part, smile and enjoy!

7 What if my presentation is virtual?

Since the COVID-19 pandemic began, the popularity of virtual conferences has increased rapidly. Virtual conferences have proved popular as they have enabled scientists to continue to share new data on a global scale whilst remaining at home (Richards, 2020).

Once you sign up to present a poster, you will be able to view specifications such as poster format and upload deadlines. Many virtual conferences require posters to be submitted a few days in advance in a pdf format so posters can be uploaded onto a web-page accessible to conference attendees. As the poster will be viewed on a screen, vertical format is best as it enables readers to scroll through your poster easily. Although you should keep text to a minimum, readers will be able to zoom into your poster allowing them to see the details of your work better. This can be particularly beneficial when interpreting graphs and data. Additionally, since your work is being viewed online, it is possible to include links and QR codes to transfer readers to additional resources.

Alongside your poster, some conferences may ask you to upload a recording of your poster presentation in audio or video format. Once attendees have had the chance to see your poster and presentation, there may be a time allocated to you which enables other conference goers to ask questions about your work via a video conference.

8 Summary

- Academic posters are a visual way to showcase work
- Stick to a simple and clear format to aid readers
- Check for any spelling or grammatical errors
- Prepare and practise in advance
- Think about any questions you may be asked

Author statements

Conflicts of interest statement

No conflicts of interest have been declared by any authors.

Authorship statement

All authors fulfill ICMJE authorship criteria, which can be accessed at <http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>. All authors have read and approved the final version, and accept responsibility for information published.

Ethics statement

Authors declare that no ethical approval was required for this article.

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The review process for this manuscript was double blind, where authors and peer reviewers were blinded to each others identity and institution.

Open access and distribution statement

Authors agree to open access and distribution by CC BY Attribution 4.0, which can be accessed at <https://creativecommons.org/licenses/by/4.0/deed.ast>

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9 Appendix

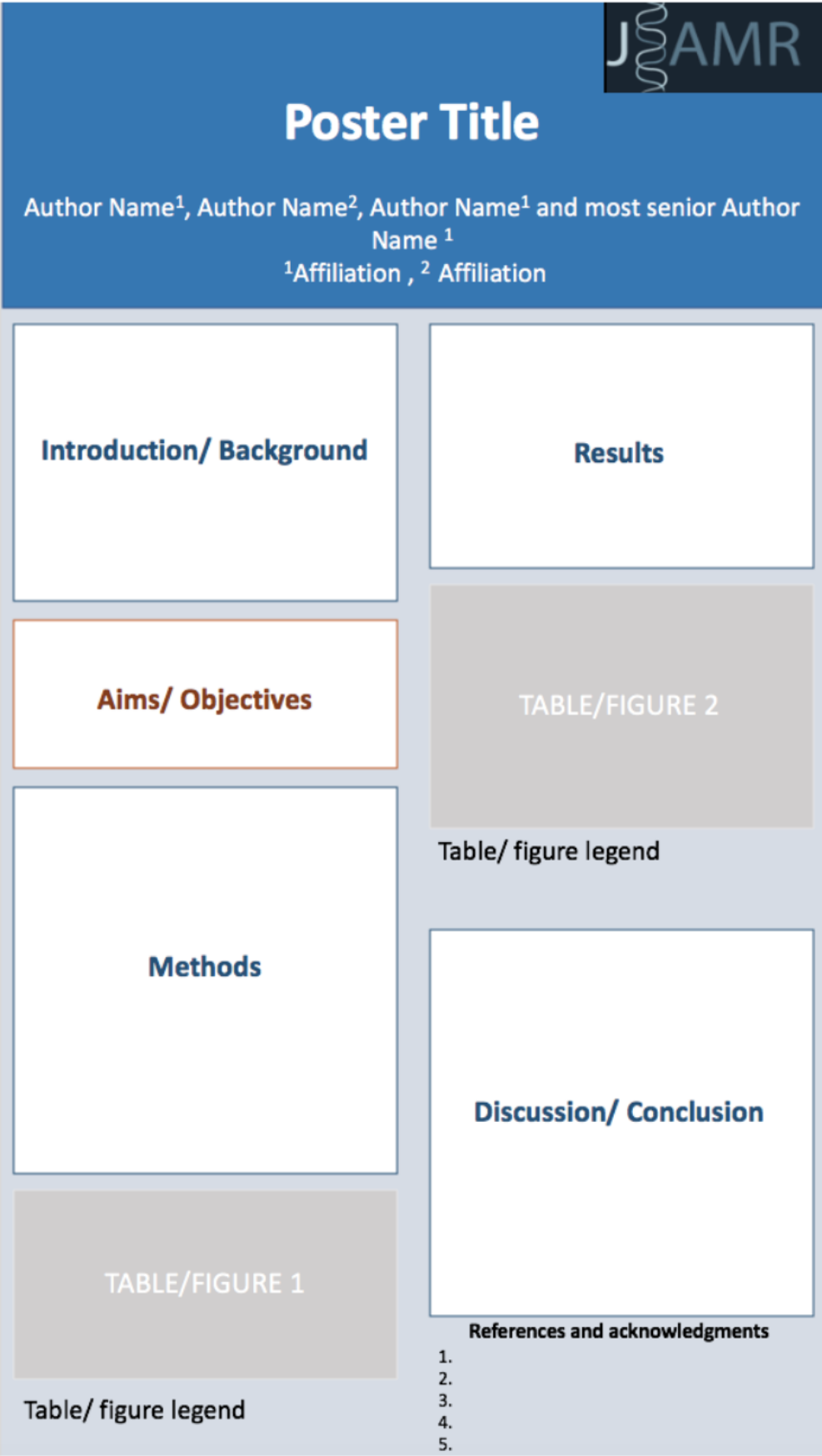


Figure A0: Example layout for a portrait poster

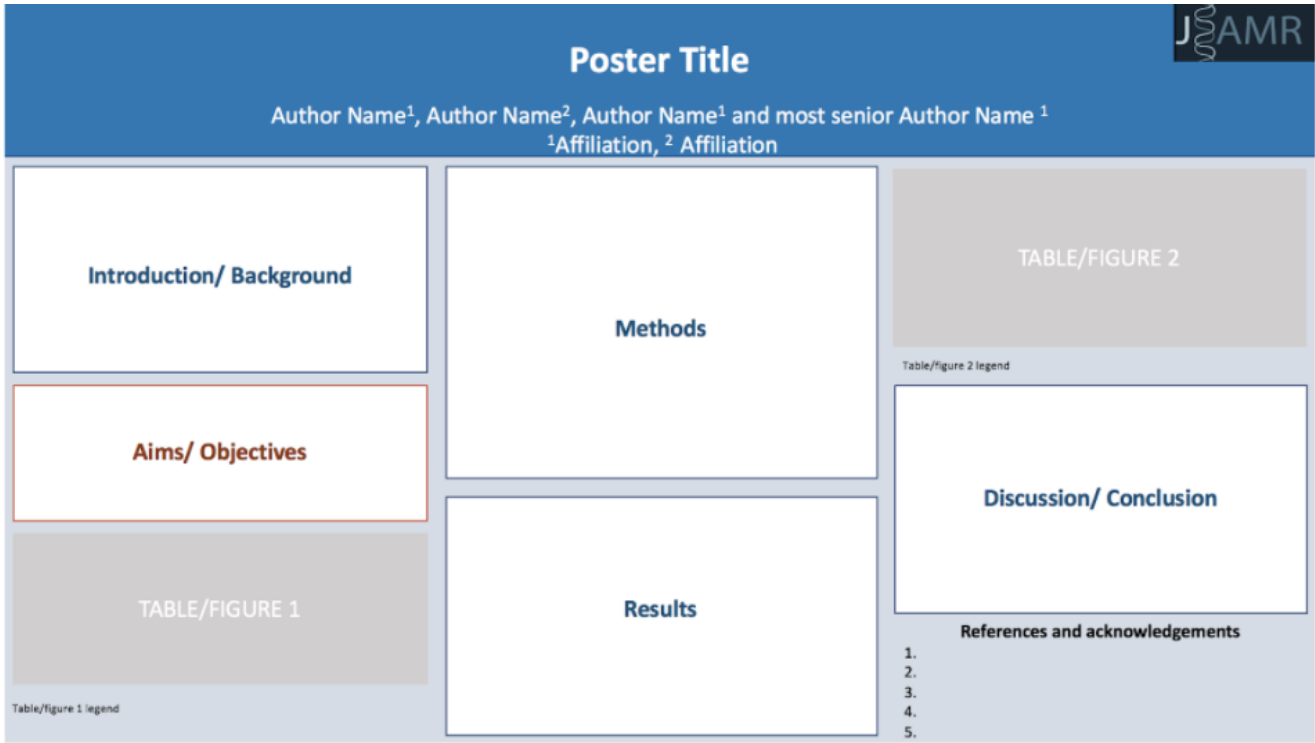


Figure B0: Example layout for a landscape poster