Spot the Manipulation: Detecting and Addressing Problem Images Before Publication

The Inquiry Process

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Overview

- Background on the image integrity program at the APS
- Steps for a thorough inquiry process
- Lessons learned and a few example images

APS publishes 14 peer-reviewed journals

- AJP-Cell Physiology
- AJP-Endocrinology and Metabolism
- AJP-GI and Liver Physiology
- AJP-Heart and Circulatory Physiology
- AJP-Lung Molecular and Cellular Physiology
- AJP-Regulatory, Integrative, and Comparative Physiology
- AJP-Renal Physiology
- Journal of Neurophysiology
- Journal of Applied Physiology
- Physiological Genomics
- Advances in Physiology Education
- Physiology
- Physiological Reviews
- Physiological Reports (with The Physiological Society)

http://www.physiology.org/
APS created a position to manage ethics concerns: Publications Ethics Manager

Publications Ethics Manager’s roles are to:

- address publication ethics concerns consistently and fairly
- facilitate inquiry process efficiently
- update and revise ethics policies and author guidelines
- promote best practice in publication ethics

- Started January 2011
- PhD: trained physiologist
- Full-time
- In-house

APS digital image review process begins after acceptance

Acceptance letter sent to authors

Image Review

Published online in AiPS (early view)

Published online/print (copy-edited format)

Image review is performed by in-house Art Editors

- Zoom in on images in the PDF
- Adjust contrast/brightness
- Apply ORI forensic tools in Photoshop
- Prepare figure documents

Inquiry process to address problem images

Develop action plan to address concern

Inquire and request clarification

Evaluate response

The goal is to publish the most appropriate images in a timely and scientifically valid publication.
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Develop a process to address problem images

Consider the following questions:
• What type of image problem was identified?
• What information do you need from the author to resolve the concern?
• Does it appear to be something that can be easily corrected?
• Does the manipulation appear to be intentional?

Who should be involved in the process?

Ethics Manager
Editor In Chief
Art Editor
Committee Chair
Pubs Director
Ethics Manager
Staff
Staff
Staff

Keep the group as small as possible

Leadership
Research expert
Editor In Chief
Art Editor
Committee Chair
Pubs Director
Ethics Manager
Staff
Staff
Staff
Be consistent in the inquiry process

- COPE has flowcharts to address concerns about problem data
- CSE has template letters to raise concerns about problem data

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Presentation error template letter

I am writing in regard to your manuscript, “X”, recently accepted for publication in APS. While your manuscript was being reviewed, it was noted that the figure in Figure X contains an error where the note article and concern state policy information requested.

Our policy requires that if a figure is rearranged, the arrangement should be disclosed by the insertion of lines or white spaces and described in the legend. Therefore, we have placed publication of your manuscript on hold to allow you to make the correction before publication. Please respond to this letter with the following information that is compliant with APS policy:

- The original captions for the figure in Figure X
- A revised version of the figure that features editing lines or spaces to identify noncontinuous lanes
- A revised legend for the figure that describes the arrangement of the gel bands

Please highlight the changes to the figure legend and send your manuscript to the editor to ensure that your concerns are addressed. If your revisions are approved, you will receive further instructions on how to return your manuscript to production.
Timeline for receiving a response
First inquiry letter is sent to the corresponding author.

- No response after one week?
  - Follow-up letter is sent to ALL authors

- No response after two weeks?
  - Follow-up letter is sent to ALL authors with a deadline

Confirm that corrections are appropriate

Response: Author is able to provide the requested information
If the manipulation is minor, can be corrected, and does not change the findings, then the correction can be accepted.

- Explanation for manipulation
- Original captures
- Revised figures

With staff and EIC approval, author is invited to submit corrected files and the manuscript proceeds to publication.
Response: Author is unable to provide the requested information

Discuss options with Problem Image group:
- Provide additional time if author is confident that it can be addressed
- Rescind acceptance to allow author time to repeat experiments
- Rescind acceptance if image manipulation is fraud or fabrication
- Serious offense: refer to Publications Committee and/or inform institution

Lessons learned....

This author has their data in order!

Simple error — Quick response and easy correction

Manuscript is improved and data are more transparent

Possibly serious error — Quick response

No. Writing back before anyone else finds out will not make me go away.
Lessons learned....

Possibly serious error   Quick response

No. Blaming a student does not make the problem image less of an issue.

Stick to your inquiry process and be sure that problem images are not fabricated or used to misinform the reviewers about the experimental findings.

The American Physiological Society

Seeking Solutions for Research Integrity: A View from All Perspectives
Sunday September 23, 2018
9 AM – 6 PM
The Ohio State University
Contact: researchintegrity@osu.edu

Thank You!

Contact information:
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